THE JOURNAL OF

MEDICAL EDUCATION

OFFICIAL PUBLICATION OF
THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES

OCTOBER 1954 • VOLUME 29 • NUMBER 10

The Teaching of Epidemiology.....*Thomas Francis Jr.*

Open-Channel Television in Postgraduate Medical Education.....*Robert S. Warner, John Z. Bowers*

Geographic Distribution of Facilities and Applicants, 1953-54.....*John M. Stalnaker, Sarah Counts*

Official Program for the Sixty-Fifth Annual Meeting

EDITORIALS

Should MEND Be Permitted To Die?

The National Fund and the AMEF Report Progress

Will the 1954 Annual Meeting Be the 65th or the 72nd?

Complete contents on page 2

New! . . .

Burrows' Textbook of Microbiology

See SAUNDERS ADVERTISEMENT—just inside

McGraw-Hill MEDICAL BOOKS

New Books

PHARMACOLOGY IN MEDICINE

Edited by VICTOR A. DRILL, M.D., Ph.D., Lecturer in Pharmacology, Northwestern University Medical School. In preparation. 1244 pp., 8½ x 11, illus. $19.50

More than eighty authorities have contributed to this basic text on the pharmacology of those drugs currently in use in medical practice. Though this text contains a vast amount of pharmaceutical knowledge, the work is so well organized that this information is made readily available to students and practitioners.

HUMAN PHYSIOLOGY — Second Edition

By BERNARDO A. HOUSSAY, M.D.; JUAN T. LEWIS, M.D.; OSCAR ORIAS, M.D.; EDUARDO BRAUN MENENDEZ, M.D.; ENRIQUE HUG, M.D.; VIRGILIO G. FOGLIA, M.D.; and LUIS F. LELOIR, M.D. In preparation. 1118 pp., 7¼ x 9⅛, illus. Probable price $14.00.

This second edition of this well-known text presents all the aspects of human physiology in both their chemical and physical relationships. Nobel Prize winner Dr. Houssay and his associates have incorporated in this revision the latest data available in the fields of nutrition, carbohydrate metabolism, endocrine glands, sexual physiology, and electrical activity of the heart.

THE NEUROANATOMICAL BASIS FOR CLINICAL NEUROLOGY

By TALMAGE L. PEELE, M.D., Associate Professor of Anatomy in charge of Neuroanatomy and Assistant Professor of Medicine, Duke University School of Medicine. In preparation. 650 pp., 7 x 10, 315 illus. $12.50.

Correlating the structure and function of the nervous system in a composite treatment, this new book combines descriptive neuroanatomy with principles of neural physiology. The material is arranged according to neural systems and includes fundamental neurological symptomatology and frequent references to outstanding research.

PRINCIPLES OF BIOCHEMISTRY

By ABRAHAM WHITE, Ph.D., Albert Einstein College of Medicine, Yeshiva University; PHILIP HANDLER, Ph. D., Duke University School of Medicine; EMIL L. SMITH, Ph. D., University of Utah College of Medicine; and DEWITT STETTEN, JR., M.D., Ph.D., Public Health Research Institute of the City of New York. In preparation. 1114 pp., 6 x 9, illus. $15.00.

Emphasizing the application of biochemistry in medical practice, this new book is a critical exposition of the fundamental principles of the science. Primary consideration is given to the significance of biochemistry in the normal functioning of biological systems, particularly in relation to man.

Send for your copy on approval

McGRAW-HILL BOOK COMPANY, INC.

HEALTH EDUCATION DEPARTMENT

330 West 42nd Street **New York 36, N. Y.**

McGRAW-HILL MEDICAL BOOKS McGRAW-HILL MEDICAL BOOKS McGRAW-HILL MEDICAL BOOKS

SAUNDERS TEXTBOOKS

**Burrows—
Textbook of
Microbiology**

New (16th) Edition . . . This book has been completely rewritten in the light of three rapidly expanding areas in the field of microbiology: microbial physiology; chemotherapy; and the viruses. Thus, the student will find new chapters on physiology and viruses as well as revised and enlarged sections on chemotherapy and drug resistance.

By WILLIAM BURROWS, Ph.D., Professor of Microbiology, Department of Microbiology, University of Chicago; with the collaboration of: FRANCIS BYRON GORDON, Ph.D., M.D.; RICHARD JANVIER PORTER, Ph.D.; and JAMES WILLIAM MOULDER, Ph.D., 824 pages, 6½" x 10", with 266 illustrations. $11.00.
New (16th) Edition!

**Arey—
Developmental
Anatomy**

New (6th) Edition . . . This famous text and practical laboratory manual has been revised to give the student an up-to-date and clear visualization of developmental anatomy. Graphic descriptive paragraphs and illustrations explain both the functional and structural aspects of embryology. It features material on the 72-hour chick and summarizes the developmental mechanics of each organ or group under the heading, *Causal Relations*.

By LESLIE BRAINERD AREY, Ph.D., Sc.D., LL.D., Robert Laughlin Rea Professor of Anatomy, Northwestern University. 697 pages, 6½" x 9", 630 illustrations. $9.50.
New (6th) Edition!

**Conant, Smith,
Baker, Callaway
and Martin—
Clinical Mycology**

Second Edition . . . Containing information on all phases of the study of fungi, this atlas and text has been brought completely up-to-date. In addition to 3 new chapters, there have been added 88 new illustrations—gross and microscopic. Exact methods of treatment are described.

By NORMAN F. CONANT, Ph.D., Professor of Mycology and Associate Professor of Bacteriology; DAVID TILLERSON SMITH, M.D., Professor of Bacteriology and Associate Professor of Medicine, Duke University School of Medicine; ROGER DENIO BAKER, M.D., Chief, Laboratory Service, Veterans Administration Hospital, Durham, N. C.; Professor of Pathology; JASPER LAMAR CALLAWAY, M.D., Professor of Dermatology and Syphilology, Duke University School of Medicine; and DONALD STOVER MARTIN, M.D., Chief, Bacteriology Section, Communicable Disease Center, Chamblee, Georgia. 456 pages, 5⅜" x 7¼", 202 illustrations. $6.50.
(Second Edition).

**Mackie, Hunter
and Worth
Tropical Medicine**

Second Edition . . . Here is a useful manual which presents important advances in the knowledge relating to the diagnosis, management, prevention and control of tropical diseases. 24 authorities have collaborated in this work.

By THOMAS T. MACKIE, M.D., Chairman, The American Foundation for Tropical Medicine; GEORGE W. HUNTER, III, Ph.D., Colonel, M.S.C., U.S.A., Chief, Section of Parasitology-Entomology, Fourth Army Medical Laboratory, Brooke Army Medical Center, Fort Sam Houston, Texas; and C. BROOKE WORTH, M.D., Field Staff Member, Division of Medicine and Public Health, The Rockefeller Foundation. 907 pages, 6" x 9", 304 illustrations. $12.00.
(Second Edition).

W. B. SAUNDERS COMPANY

West Washington Square **Philadelphia 5**

Table of Contents

VOL 29 October 1954 No. 10

ARTICLES

The Teaching of Epidemiology
—*Thomas Francis Jr.* 15

Schedule of Dates for 1955-1956
Intern Matching Program 26

The Use of Open-Channel Television in
Postgraduate Medical Education
—*Robert S. Warner, John Z. Bowers* 27

Geographic Distribution of Medical Education
Facilities and Medical School Applicants—
1953-54 Study
—*John M. Stalnaker, Sarah Counts* 34

Offical Program for the Sixty-Fifth Annual Meeting 38

EDITORIALS AND COMMENTS

Should MEND Be Permitted to Die? 42

The National Fund and the AMEF Report Progress .. 43

Will the 1954 Annual Meeting
Be the 65th or the 72nd? 44

NEWS DIGEST 47

College Briefs 50

AUDIOVISUAL NEWS 56

BOOK REVIEWS 63

THE PERSONNEL EXCHANGE 69

Association Officers, Staff, Committees 6

Index to Advertisers 10

Calendar of Meetings 10

The Journal of
MEDICAL EDUCATION

Official publication of the Association of American Medical Colleges, 185 N. Wabash Ave., Chicago 1.

The Journal of MEDICAL EDUCATION is owned and published monthly by the Association of American Medical Colleges, 185 N. Wabash Ave., Chicago 1; Phone, STate 2-8870. Entered as second class matter January 17, 1930, at the Post Office, Chicago, Ill., under the Act of March 3, 1879.

EDITORIAL BOARD: John Z. Bowers, chairman, Utah; William B. Bean, Iowa; Stanley E. Bradley, Columbia; Alan Chesney, Johns Hopkins; James W. Faulkner, Boston; Russell L. Holman, Louisiana State; Chauncey D. Leake, Texas; Dean F. Smiley, secretary.

STAFF: Editor, Dean F. Smiley; Assistant Editor: Tess Snyder; Editorial Assistant: Barbara Madden.

EDITORIAL POLICY: Articles ordinarily will be limited to 5,000 words in length. Articles longer than this usually will require treatment as a supplement and necessitate a publication subsidy. Responsibility for signed articles and editorials is not assumed by the Association's officers or the Journal's Editorial Board but by the individual author.

SUBSCRIPTION RATES: $7 per year; $1 per single copy; foreign $8 per year; $1.25 per single copy.

COPY DEADLINE: Copy for typesetting must be in by the 1st and plates by the 10th of the month preceding publication.

ADVERTISING: Advertising Manager, Roy G. Parry, Journal of Medical Education, 185 N. Wabash Ave., Chicago 1, Ill.; STate 2-8870.

REPRINTS: Each author routinely receives 25 copies of his article promptly after publication. Additional reprints may be purchased from the Journal in quantities of 100, and in multiples of hundreds at a price depending on the length of the article.

Copyright: October 1954, by the Association of American Medical Colleges.

Printed in U.S.A.

NEW FOURTH EDITION **PUBLISHED AUG. 1954**

YATER'S

FUNDAMENTALS OF INTERNAL MEDICINE

BY **WALLACE M. YATER**, M.D., F.A.C.P.

WITH **WILLIAM FRANCIS OLIVER**, M.D., A.A.C.P.

AND 21 CONTRIBUTING AUTHORITIES AS FOLLOWS:

Garnet W. Ault
Joseph M. Barker
Grafton Tyler Brown
Edward E. Cummings
William H. Hanna
Wallace E. Herrell
James M. Hundley
Hugh H. Hussey, Jr.
Paul F. Jaquet, Jr.
Francis R. Keating, Jr.
Edwin J. Kepler
Theodore Koppanyi
Laurence H. Kyle
William J. Martin
Isadore Rodin
Sanford M. Rosenthal
Frederick C. Schreiber
William H. Sebrell, Jr.
Walter C. Teichmann
W. E. Wellman
Jonathan M. Williams

QUOTES FROM THE REVIEWS

•

"THE BEST REVIEW OF MEDICINE THAT I HAVE SEEN"

•

"EXTREMELY USEFUL TO THE BUSY PRACTITIONER"

•

"PRESENTS THE TRUE ESSENTIAL OF THE SUBJECT"

•

"MUCH 'MEAT' IN FEW WORDS WITHOUT LOSS OF COHERENCY, CLARITY OR FACTUAL DETAIL"

•

"REPLETE WITH ESSENTIAL KNOWLEDGE OF HOW TO TREAT THE SICK"

•

"WILL STIMULATE AND HELP PHYSICIANS YOUNG AND OLD"

•

"ALMOST EVERY BOOK LETS YOU DOWN IN SOME RESPECT. THIS ONE DOES NOT"

•

"EXTREMELY USEFUL TO ANYONE WHO KEEPS IT HANDY"

•

This widely accepted text owes its success to the ability of the author and his contributors to screen out non-essentials and focus the reader's attention upon the basic and practical fundamentals of internal medicine.

Yater's FUNDAMENTALS is recognized as an effective and dependable evaluation and digest of present-day knowledge regarding the understanding, recognition and treatment of those diseases and syndromes considered as being in the wide field of internal medicine.

Each subject is covered concisely yet clearly. There is no padding, almost no repetition, and little is included in the way of theoretical aspects or controversial material.

The discussion of each subject is orderly with brief introductory paragraphs covering basic physiology and pathology before presenting main discussions of symptoms, diagnosis, differential diagnosis, treatment, and general patient care. There are many clarifying and time saving tables of differential diagnosis, succinct diagnostic summaries and illustrations which were selected with great care to serve as helpful diagnostic aids.

In the section on diseases of the heart the material on electrocardiography is again contributed by Joseph M. Barker, the author of THE UNIPOLAR ELECTROCARDIOGRAM.

4TH EDITION • 1954 • 1280 PAGES • 161 ILLUS. • $13.50

APPLETON-CENTURY-CROFTS, INC.

(Publishers of THE NEW CENTURY CYCLOPEDIA OF NAMES)

35 WEST 32nd STREET, NEW YORK 1, N. Y.

at her first postpartum check up

Ortho

simple, effective conception control

How to control itching and scaling for **1** *to* **4** *weeks*

You can expect results like these with SELSUN: complete control in 81 to 87 per cent of all seborrheic dermatitis cases, and in 92 to 95 per cent of common dandruff cases. SELSUN keeps the scalp free of scales for *one to four weeks*—relieves itching and burning after only two or three applications.

Your patients just add SELSUN to their regular hair-washing routine. No messy ointments . . . no bedtime rituals . . . no disagreeable odors. SELSUN leaves the hair and scalp clean and easy to manage.

Available in 4-fluidounce bottles, SELSUN is ethically promoted and dispensed only on your prescription. Abbott

prescribe

SELSUN®

Sulfide Suspension

(Selenium Sulfide, Abbott)

Association of American Medical Colleges

OFFICERS OF THE ASSOCIATION 1953-1954

Officers and Members of Executive Council

President: STANLEY E. DORST.....Cincinnati
President-Elect: VERNON W. LIPPARD.....Yale
Vice President: WILLIAM S. MIDDLETON .....Wisconsin
Treasurer: JOHN B. YOUMANS.....Vanderbilt
Immediate Past President: WARD DARLEY ..... Colorado
Joseph C. Hinsey, *Chairman* .....N. Y. Hospital-Cornell U. Med. Center
Robert A. Moore.....Pittsburgh
Stockton Kimball.....Buffalo
John Z. Bowers.....Utah
George N. Aagaard.....Washington (Seattle)
Walter R. Berryhill.....North Carolina
Secretary: Dean F. Smiley.....AAMC
Director of Studies: John M. Stalnaker....AAMC

Staff

DEAN F. SMILEY, Secretary; Editor, *Medical Education*
JOHN M. STALNAKER, Director of Studies
J. EDWIN FOSTER, Director, Medical Audio-Visual Institute

Committees of the Association 1953-1954

(Chairman listed first—Affiliation listed in italics)

AUDIOVISUAL EDUCATION

Walter A. Bloedorn, *George Washington*
Thomas P. Almy, *Cornell*
Clarence de la Chapelle, *N. Y. U. Post-Grad.*
William W. Frye, *Louisiana*
Theodore R. Van Dellen, *Northwestern*
W. Clarke Wescoe, *Kansas*

BORDEN AWARD

Ashley Weech, *Cincinnati*
Willard M. Allen, *Washington Univ.*
Harry P. Smith, *Columbia*
Elmer H. Stotz, *Rochester*
William S. Tillett, *N. Y. University*

CONTINUATION EDUCATION

James E. McCormack, *Columbia*
George N. Aagaard, *Washington (Seattle)*
Robert Boggs, *N. Y. Univ. Post-Grad.*
Robert Howard, *Minnesota*
Samuel Proger, *Tufts*
Frank Roberts, *Tennessee*
John B. Truslow, *Medical Col. of Va.*

EDITORIAL BOARD

John Z. Bowers, *Utah*
William B. Bean, *Iowa*
Stanley E. Bradley, *Columbia*
Alan Chesney, *Johns Hopkins*
James W. Faulkner, *Boston*
Russell L. Holman, *Louisiana State*
Chauncey D. Leake, *Texas*
Dean F. Smiley, *Secretary*

FINANCING MEDICAL EDUCATION

John B. Youmans, *Vanderbilt*
Walter A. Bloedorn, *George Washington*
Ward Darley, *Colorado*
Joseph C. Hinsey, *N. Y. Hosp., Cornell*
Vernon W. Lippard, *Yale*
Norman Topping, *Pennsylvania*

GRADUATE MEDICAL EDUCATION

Kendall Corbin, *Mayo Foundation*
Clarence de la Chapelle, *N.Y.U. Post-Grad.*
John Deitrick, *Jefferson*
Alms C. McGuinness, *Penn. Graduate*
R. L. Pullen, *Missouri*
C. J. Smyth, *Colorado*

INTERNATIONAL RELATIONS IN MEDICAL EDUCATION

Francis Scott Smyth, *California (S.F.)*.
E. Grey Dimond, *Kansas*
Frode Jensen, *N. Y. Univ. Post-Grad.*
Maxwell E. Lapham, *Tulane*
John McK. Mitchell, *Pennsylvania*
Elizabeth T. Lam, *Consultant, Com. on Internatl. Exch. of Persons*
Harold H. Loucks, *Consultant, China Medical Board*
Myron Wegman, *Consultant, Pan-American Sanitary Bureau*

INTERNSHIPS AND RESIDENCIES

Currier McEwen, *New York University*
D. W. E. Baird (Idaho, Mont., Ore., Wash.), *Oregon*
Robert Berson (Ky., N.C., S.C., Tenn.), *Vanderbilt*
Harold Jeghers (Del., D.C., Md., Va., W.Va.), *Georgetown*
Warren T. Brown (Okla., Texas), *Baylor*
Charles A. Doan (E. Ohio, W. Pa.), *Ohio State*
Gordon E. Goodhart (Ariz., Calif., Nev.), *Southern Calif.*
James E. McCormack (Conn., N.Y., part of N.J.), *Columbia*
John McK. Mitchell (Part of N.J., E. Pa.), *Pennsylvania*
Otto Mortensen (Minn., Wis.), *Wisconsin*
F. J. Mullin (Ill., Ind., Iowa), *Shimer*
Hayden C. Nicholson (Ark., La., Miss.), *Arkansas*
James P. Tollman (Kan., Mo., Neb., N.D., S.D.), *Nebraska*
Richard W. Vilter (Mich., W. Ohio), *Cincinnati*
Emil G. Holstrom (Colo., N.M., Utah, Wyo.), *Utah*
George A. Wolf Jr. (Maine, Mass., N.H., R.I., Vt.), *Vermont*
Eugene B. Ferris Jr. (Ala., Fla., Ga.), *Emory*

LICENSURE PROBLEMS

Charles A. Doan, *Ohio State*
John P. Hubbard, *Pennsylvania*
J. Murray Kinsman, *Louisville*
Frank E. Whitacre, *Vanderbilt*
William R. Willard, *State Univ. of N. Y. (Syracuse)*
Albert W. Wright, *Albany*

MEDICAL CARE PLANS

Dean A. Clark, *Harvard*
Frank R. Bradley, *Washington U. (St. Louis)*
George Hayman, *Tufts*
Henry D. Mulholland, *Virginia*
John F. Sheehan, *Loyola*
Albert Snoke, *Yale*
Maxwell M. Wintrobe, *Utah*

PLANNING FOR NATIONAL EMERGENCY

Stanley Olson, *Baylor*

(Committees continued on page 8)

to support the healthy...

Viterra®

a vitamin-mineral formulation of 21 balanced factors, supplementing the depleted diet

each capsule of Viterra contains:

Vitamin A	5,000 U.S.P. Units
Vitamin D	500 U.S.P. Units
Vitamin B_{12}	1 mcg.
Thiamine Hydrochloride	3 mg.
Riboflavin	3 mg.
Pyridoxine Hydrochloride	0.5 mg.
Niacinamide	25 mg.
Ascorbic Acid	50 mg.
Calcium Pantothenate	5 mg.
Mixed Tocopherols *(Type IV)*	5 mg.
Calcium	213 mg.
Cobalt	0.1 mg.
Copper	1 mg.
Iodine	0.15 mg.
Iron	10 mg.
Manganese	1 mg.
Magnesium	6 mg.
Molybdenum	0.2 mg.
Phosphorus	115 mg.
Potassium	5 mg.
Zinc	1.2 mg.

to fortify the sick...

Viterra® Therapeutic

high-potency capsules specifically designed to meet increased nutritional needs during illness

each capsule of Viterra Therapeutic contains:

Vitamin A	25,000 U.S.P. Units
Vitamin D	1,000 U.S.P. Units
Thiamine Mononitrate	10 mg.
Riboflavin	5 mg.
Vitamin B_{12}	5 mcg.
Niacinamide	100 mg.
Ascorbic Acid	150 mg.
Calcium	103 mg.
Cobalt	0.1 mg.
Copper	1 mg.
Iodine	0.15 mg.
Iron	15 mg.
Magnesium	6 mg.
Manganese	1 mg.
Molybdenum	0.2 mg.
Phosphorus	80 mg.
Potassium	5 mg.
Zinc	1.2 mg.

Roerig Rx

536 Lake Shore Drive, Chicago 11, Illinois

(Committees continued from page 6)

Mark Everett, *Oklahoma*
Thomas Forbes, *Yale*
Stockton Kimball, *Buffalo*

PROGRAM

Stanley E. Dorst, *Cincinnati*
Vernon W. Lippard, *Yale*
William Middleton, *Wisconsin*
Dean F. Smiley, *secretary*

PUBLIC INFORMATION

John L. Caughey, *Western Reserve*
Walter R. Berryhill, *North Carolina*
Joseph B. Kelly, *Johns Hopkins*
Milton Murray, *Medical Evangelist*
Ralph Rohweder, *Natl. Soc. for Med. Research*
Raymond O. Torr, *Natl. Fund for Med. Education*
John D. Van Nuys, *Indiana*
Harold C. Wiggers, *Albany*

TEACHING INSTITUTES AND SPECIAL STUDIES

George Packer Berry, *Harvard*
Philip Bard, *Johns Hopkins*
D. Bailey Calvin, *Texas*
Stanley E. Dorst, *Ex Officio*
Joseph C. Hinsey, *Ex Officio*
Thomas Hunter, *Virginia*
Carlyle Jacobsen, *State Univ. of N. Y.*
Vernon W. Lippard, *Ex Officio*
Rolf Syvertsen, *Dartmouth*
W. Clarke Wescoe, *Kansas*
John M. Stalnaker, *secretary*

VETERANS ADMINISTRATION—MEDICAL SCHOOL RELATIONSHIPS

R. Hugh Wood, *Emory*
Harold S. Diehl, *Minnesota*
A. C. Furstenberg, *Michigan*
Currier McEwen, *New York University*
Gordon H. Scott, *Wayne*
Richard W. Vilter, *Cincinnati*

Representatives to Related Organizations

ADVISORY BOARD FOR MEDICAL SPECIALTIES

Stanley E. Dorst, *Cincinnati*
William S. Middleton, *Wisconsin*

ADVISORY BOARD OF AMERICAN FOUNDATION OF OCCUPATIONAL HEALTH

Gordon H. Scott, *Wayne*

ADVISORY COUNCIL FOR THE NATIONAL FUND FOR MEDICAL EDUCATION

Walter A. Bloedorn, *George Washington*
Joseph C. Hinsey, *N. Y. Hosp., Cornell*
John B. Youmans, *Vanderbilt*

ADVISORY COUNCIL ON MEDICAL EDUCATION

Stanley E. Dorst, *Cincinnati*
Joseph C. Hinsey, *N. Y. Hosp., Cornell*
Vernon W. Lippard, *Yale*

AMERICAN COUNCIL ON EDUCATION

Ward Darley, *Colorado*
Joseph L. Johnson, *Howard*
Rev. Paul A. McNally, *Georgetown*
Edward J. Van Liere, *West Virginia*
William R. Willard, *State of N. Y. (Syracuse)*
H. Boyd Wylie, *Maryland*

COMMITTEE ON EVALUATION OF FOREIGN CREDENTIALS

Francis Scott Smyth, *California (S.F.)*
Harold A. Davenport, *Northwestern*

COUNCIL ON NATIONAL EMERGENCY SERVICE

Stanley W. Olson, *Baylor*

FEDERATION OF STATE MEDICAL BOARDS

Charles A. Doan, *Ohio State*

FELLOWSHIPS SELECTION BOARD (WHO)

Walter A. Bloedorn, *George Washington*

NATIONAL INTERN MATCHING PLAN, INC.

F. J. Mullin, *Shimer*
Currier McEwen, *New York U.*
John M. Stalnaker, *AAMC*

JOINT COMMITTEE ON MEDICAL EDUCATION IN TIME OF NATIONAL EMERGENCY

Stockton Kimball, *Buffalo*
Joseph C. Hinsey, *N. Y. Hosp., Cornell*
Stanley W. Olson, *Baylor*
Dean F. Smiley, *AAMC*
John M. Stalnaker, *AAMC*

LIAISON COMMITTEE WITH COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

Stanley E. Dorst, *Cincinnati*
Joseph C. Hinsey, *N. Y. Hosp., Cornell*
Vernon W. Lippard, *Yale*
Dean F. Smiley, *AAMC*
John M. Stalnaker, *AAMC*

MEDICAL ADVISORY COMMITTEE ON INSTITUTE OF INTERNATIONAL EDUCATION

Duncan W. Clark, *State Univ. of N. Y. (Brooklyn)*
Dayton J. Edwards, *Cornell*
Cornelius T. Stepita, *N. Y. Univ. Post-Grad.*

NATIONAL BOARD OF MEDICAL EXAMINERS

John Deitrick, *Jefferson*
Robert A. Moore, *Pittsburgh*
B. O. Raulston, *Southern California*

NATIONAL HEALTH COUNCIL

Jean A. Curran, *State Univ. of N. Y. (Brooklyn)*
Joseph C. Hinsey, *N. Y. Hosp., Cornell*
Ira Hiscock, *Yale*

SUBCOMMITTEE ON MEDICAL EDUCATION FOR NATIONAL DEFENSE

Stanley W. Olson, *Baylor*
George V. Byfield, *Illinois*
Lawrence Hanlon, *Cornell*
Stockton Kimball, *Buffalo*
John Lagen, *California (S.F.)*
John B. Youmans, *Vanderbilt*

AO FUL-VUE MEDICAL
DIAGNOSTIC SET
IN HANDSOME

NEW

DURAFLEX CASE

Many other combinations of AO Diagnostic Instruments and Sets are available from your local surgical supply dealer or AO representative.

THE FUL-VUE OTOSCOPE

with NEW IMPROVED ILLUMINATION!

Offers one finger adjustment, wide rotation of illumination and viewing axes with automatic alignment at tip of the non-reflective, white nylon specula.

THE FUL-VUE OPHTHALMOSCOPE

Provides complete one hand control of 23 lens powers, illumination intensity, and selection of five apertures. Sturdy die-cast metal construction, superior optical quality, illuminated dial, prefocused precentered bulb requires no adjustment.

THE "DURAFLEX" CASE

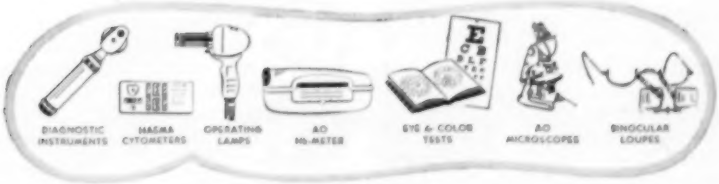
A beautifully appointed pocket-size case. It's semi-rigid, light weight, leather grained—and it will take abuse year after year. The entire case can be washed and sterilized with alcohol if desired. Note the illustration—the otoscope is fully assembled with any desired speculum in place, ready for use.

CHOICE OF HANDLES

Medium or large battery handle with quick action bayonet connection for easy positive interchangeability of heads. Finger-tip rheostat control. Metal, covered with heavy seamless vinyl.

American Optical

INSTRUMENT DIVISION
BUFFALO 15, NEW YORK



Calendar of Meetings

ASSOCIATION OF AMERICAN MEDICAL COLLEGES 65th Annual Meeting, October 18-20; French Lick, Ind. (French Lick Springs Hotel).

Teaching Institute on Pathology, Microbiology, Immunology and Genetics—October 10-15; French Lick, Ind. (French Lick Springs Hotel). (Attendance By Invitation Only.)

Academy of Psychosomatic Medicine—Oct. 8-9; Plaza Hotel; New York City.

American Association of Medical Clinics—Nov. 12-14; Jung Hotel, New Orleans.

American Cancer Society—Oct. 17-24; Hotel Roosevelt, New York.

American College of Surgeons, Clinical Congress—November 15-19; Atlantic City, N J.

American Heart Association—Oct. 26-30; Jung Hotel, New Orleans.

American Psychosomatic Society—May 4 and 5, 1955; Claridge Hotel; Atlantic City, N. J.

American Public Health Association—Oct. 11-15; Memorial Auditorium, Buffalo, N. Y.

American Society of Tropical Medicine and Hygiene—Nov. 4-6; Hotel Peabody, Memphis, Tenn.

Congress of the International Diabetes Federation—July 4-8, 1955; Cambridge, England.

Congress of International Society of Urologists —April, 1955; Athens, Greece.

International Anatomical Congress—July 25-30, 1955; Paris, France.

International Congress of Biochemistry—Aug. 1-6, 1955; Brussels, Belgium.

International Congress of Comparative Pathology—May 26-31, 1955; Lausanne, Switzerland.

International Congress of Military Medicine and Pharmacy—November 7-12, 1954; Luxemburg. Luxemburg.

Inter-American Congress of Radiology—April 24-29, 1955; Shoreham Hotel, Washington, D. C.

Inter-American Session, American College of Surgeons—January 11-14, 1955; Lima, Peru.

International Anesthesia Research Society—Oct. 10-14; Los Angeles.

International Congress on Diseases of the Chest—October 4-8; Barcelona, Spain.

International Federation of Medical Student Associations—Oct. 1-5; Rome, Italy.

Interstate Postgraduate Medical Association of North America—Nov. 1-14; Municipal Auditorium, Minneapolis, Minn.

National Association for Mental Health—Oct. 23-25; Hotel Statler, N. Y.

Index to Advertisers

Assn. of American Medical Colleges	Third Cover
Abbott Laboratories	5
American Optical Co.	9
Appleton-Century Crofts, Inc.	3
Blakiston Co.	66
Borcherdt Malt Extract Co.	12
Kewaunee Manufacturing Co.	14
Lippincott, J. B.	Back Cover
McGraw-Hill Book Co.	Inside Front Cover
Mosby, C. V., Co.	64
Ortho Pharmaceutical Co.	4
Peerless Film Processing Corp.	59
Roerig, J. B., & Co.	7
Saunders, W. B., Co.	Front Cover, 1
Taylor Instrument Co.	70
Warner-Chilcott Laboratories	11
Woodward Medical Personnel Bureau	69
Wyeth, Inc.	13
Carl Zeiss, Inc.	68

You can prevent attacks in angina pectoris

Prolonged protection

While Peritrate has been found effective in reducing the number of attacks in almost 80 per cent of patients,[2] comparison with nitroglycerin disclosed that Peritrate exerted "... a marked modifying influence on the electrocardiographic response to standard exercise ... comparable to [results] obtained with glyceryl trinitrate."[1] Unlike glyceryl trinitrate, this *"improved response could be elicited as long as four to five hours after administration of the drug."*[1]

Simple regimen

Together with significant improvement in the EKG,[1,2] Peritrate prophylaxis will reduce the nitroglycerin need in most angina pectoris patients.[3] A continuing schedule of only 1 or 2 tablets 4 times daily will usually

1. *reduce the number of attacks in almost 80 per cent of patients*[2]
2. *reduce the severity of attacks which cannot be prevented.*

Available in 10 mg. tablets in bottles of 100, 500 and 5000.

1. Russek, H. I.; Urbach, K. F.; Doerner, A. A., and Zohman, B. L.: J.A.M.A. *153*:207 (Sept. 19) 1953.
2. Humphreys, P., *et al.*: Angiology 3:1 (Feb.) 1952.
3. Plotz, M.: New York State J. Med. *52*:2012 (Aug. 15) 1952.

Peritrate®

TETRANITRATE

(BRAND OF PENTAERYTHRITOL TETRANITRATE)

WARNER-CHILCOTT

Laboratories NEW YORK

For HARD, DRY STOOLS OF CONSTIPATED BABIES

Borcherdt

MALT SOUP Extract*

A gentle laxative modifier of milk. One or two tablespoonfuls in the day's formula—or in water for breast fed babies—produce a marked change in the stool.

SAVES DOCTOR'S TIME, TOO!

Fewer phone calls from anxious mothers. Malt Soup Extract is merely added to the formula. Prompt results. Easy for mother to prepare and administer. Does not upset the baby.

*Specially processed non-diastatic malt extract neutralized with potassium carbonate. In 8 oz. and 16 oz. bottles.

Send for Samples and Literature

BORCHERDT MALT EXTRACT CO.
217 N. Wolcott Ave. • Chicago 12, Ill.

GOOD FOR GRANDMA, TOO!

Borcherdt

MALT SOUP Extract*

A New Dietary Management for

CONSTIPATED ELDERLY

A bowel content modifier that softens dry, hard stools by dietary means without side effects.[1] Acts by promoting an abundant fermentative bacteria in the colon, thus producing soft, easily evacuated stools. Retards growth of putrefactive organisms. By maintaining a favorable intestinal flora, Malt Soup Extract provides *corrective therapy for the colon, too!*

DOSE: 2 tablespoonfuls b.i.d. until stools are soft (may take several days), then 1 or 2 Tbs. at bedtime.

*Specially processed malt extract neutralized with potassium carbonate. In 8 oz. and 16 oz. bottles.

1. Cass, L. J. and Frederik, W. S.: Malt Soup Extract as a Bowel Content Modifier in Geriatric Constipation. Journal-Lancet, 73:414 (Oct.) 1953.

Send for Sample

BORCHERDT MALT EXTRACT CO.
217 N. Wolcott Ave. • Chicago 12, Ill.

RHEUMATIC-FEVER PROPHYLAXIS WITH BICILLIN® (DIBENZYLETHYLENEDIAMINE DIPENICILLIN G): SEATTLE STUDY

Clinical Investigation

Numerous investigations have shown that rheumatic-fever prophylaxis requires continuous control of streptococcal infection in the upper respiratory tract. Since the cost of such a long-term program may be a determining factor, studies of relatively inexpensive home therapy are of particular interest. One of these studies has been recently reported on by Tidwell,[1] speaking at the annual meeting of the American Medical Association, June, 1954.

Prophylactic medication to eradicate the beta-hemolytic streptococcus was given to 59 patients during the streptococcal season of 1952-1953. Tidwell reports that Bicillin, a highly insoluble salt of penicillin, was chosen for study because several clinical investigations had demonstrated it to be the most efficient agent for production of the extended penicillin blood levels required.

Of these 59 patients, 25 were acutely or chronically ill at the start of the program. Streptococcal pharyngitis was found in 1; congenital cardiac disease in 8; a history of rheumatic fever in 13; nephritis in 2; and asthma in 1.

THROAT CULTURES

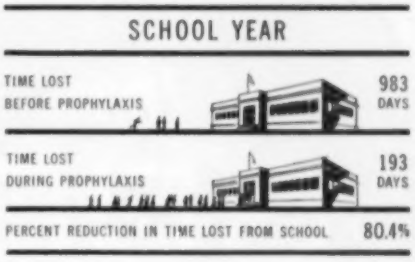
Throat cultures were performed at the beginning of the investigation, as well as monthly or oftener throughout the course. Material for culture was obtained by swabbing the tonsils and posterior pharynx through the mouth under direct vision. The swabs were then streaked on the surface of blood agar plates. These cultures were found initially positive for beta-hemolytic streptococci in 5 patients.

PROPHYLACTIC REGIMEN

One 200,000-unit tablet of Bicillin was given daily to each patient. Some patients took the medication before breakfast, others after breakfast or before lunch, others during dinner, and some at no fixed time.

RESULTS

Tidwell relates the effectiveness of the program to the patients' school attendance. During the prophylactic course, children of school age lost only 193 days because of illness, while in the year prior to the study they had lost 983 days. School absenteeism was consequently reduced by 80.4 percent.



Of all patients, only 2 showed reappearance of the beta-hemolytic streptococcus. In the first, streptococcal breakthrough appeared after the patient had been without medication for 3 days, but the culture returned to negativity when Bicillin was resumed. In the second, the culture became negative when the dose was doubled.

No early or late suppurative or nonsuppurative sequelae followed any of the infections. There was neither recurrence of rheumatic fever nor evidence of subacute bacterial endocarditis.

Of the original 59 patients, 33 are being continued on a 5-year prophylactic program. The second streptococcal season has now been completed for these patients. Tidwell reports that the beta-hemolytic streptococcus has not reappeared in any of the cultures, and that there has been no recurrence of rheumatic fever or evidence of subacute bacterial endocarditis.

1. Tidwell, R. A.: Read before Annual Meeting of A.M.A., San Francisco, Calif., June 24, 1954.

Wyeth®
Philadelphia 2, Pa.

Handling Hazardous Materials?

Send for this free book explaining

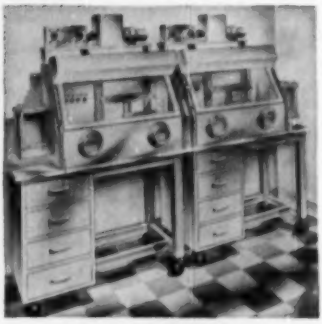
the CBR System

for your laboratory

The C-B-R System—Chemical, Biological, Radiological—is Kewaunee's latest contribution to *safety, convenience, efficiency and economy* in the laboratory handling hazardous materials.

Based on the watchwords *"concentrate-confine"*, it provides vital protection to technicians and other laboratory personnel, whether the materials handled are in the field of isotopes, explosives, solvents or toxic materials. It provides remarkable flexibility and operating economy. It assures outstanding efficiency and convenience.

And it's all explained in the new free book "The CBR System by Kewaunee." So if your laboratory is handling hazardous materials of any kind, we invite you to send for this book today. It's yours for the asking—and there's no obligation.



The Kewaunee "CBR Twosome"

"Single Unit" for remote control

Kewaunee Mfg. Co.

J. A. Campbell, President

5117 S. Center Street • Adrian, Michigan

Representatives in Principal Cities

The Teaching of EPIDEMIOLOGY

THOMAS FRANCIS JR.

THE FIRST requirement in discussion of the teaching of a subject is to define it, since the concept or the attitude toward the subject strongly influences the instructors' approach and emphasis. There is an increasing willingness, as earlier was the case with anatomy, to extend the use of the term epidemiology to problems of health, business or even international conflict; an increased realization that it illustrates an application of the scientific method to the study of situations concerning population groups generally. Nevertheless, for present purposes, consider epidemiology as the study of the laws and the interrelated factors governing the occurrence of disease or abnormality in a community.

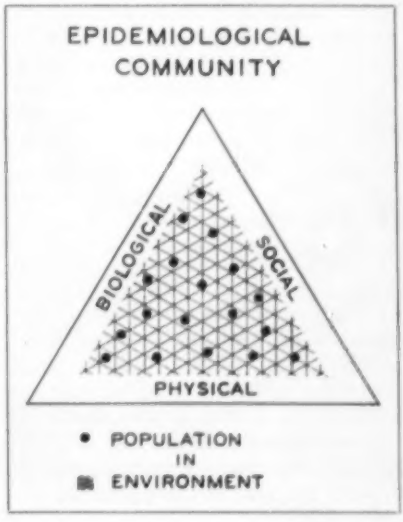
The terminology itself indicates that epidemiological events are the consequence of multiple and varied contributory factors at play in a community. A community is made up of a population in an environment (see Figure 1); its size and composition—whether familial, regional or global—depends on the scope of the operation. Since we are here discussing human medicine, it is disorders in the human population with which we are concerned.

Dr. Francis is Henry Sewall University Professor of Epidemiology and chairman, department of epidemiology, School of Public Health, University of Michigan; professor of epidemiology, department of pediatrics and communicable diseases, University of Michigan School of Medicine. This paper was presented by Dr. Francis at the First World Conference on Medical Education, London, England, August 1953.

The environment is the total medium in which the population exists. Man's environment is created by his own kind, by his associated fauna and flora, microbial or other, and by the physical conditions in which he is functioning; the boundaries between population and environment are indistinct.

In this community various agencies or influences participate to bring about the biological phenomenon of disease or abnormality. The agencies may be essentially intrinsic to the host population or to the environ-

FIGURE 1



ment; certain of them may be introduced from without. Commonly, factors of both nature are involved. Epidemiology embraces, then, the study of all the factors, including the characteristics of the host population, the causative agencies (predisposing, precipitating and perpetuating), and the biological, social and physical environment. There have been numerous splendid expositions of the various phases of epidemiology and of the methodology. It is my intention to discuss in a limited fashion certain objectives to be sought in the teaching of epidemiology to medical students.

The extensive and complex reaches of the concept indicate that its complete fulfillment in any situation is unlikely; even within limited dimensions it requires the participation of a great variety of approaches from different fields of knowledge. Moreover, it requires a maturity of comprehension. Because of these broad limits, it is important in the teaching to focus upon principles which can be demonstrated by acceptable data and to avoid the dangers of abstraction. The purpose in education is to increase knowledge and active consideration of the origins and behavior of medical disorders in populations so as to increase the scholar's effectiveness as a student of disease and as a physician to a community.

Meaning of Community

A major obstacle to be overcome is the fact that most medical students have not developed through prior experience or education a view of community which permits ready mental excursion into the area of medical ecology. It is not a peculiarity of medical students alone, but a result of the Olympian attitude of man toward the rest of the world, an attitude which might be expected in large cities. For example, in New York City the environment is almost entirely man-made with little other biological environment except for rodents, insects, pigeons in the parks and the Washington fish market.

FIGURE 2

Even though competition among the human species is recognized, there is, even in small towns, no sense of the identification of the biological environment with himself which the more primitive man accords his ox, his banana tree or other natural resources. Basically, we are engaged in an effort to understand man as a biological unit seeking to maintain himself in the highly competitive field of parasitism where new conditions, largely deriving from man's actions, bring about shifts in biological balance and require new adaptations. One of the objectives in the teaching of epidemiology should then be to construct the epidemiological idea of community (see Figure 2). Efforts to improve the view are progressing from the social side by assigning the student to a family or

other community units, but I wonder if the general epidemiological perspective is really considered and whether the social phase is being emphasized in relation to the total environment.

Epidemiology and Pathogenesis

The medical student is intensively engaged in acquiring and correlating the knowledge which leads to measurement and diagnosis of the abnormality that a patient presents. Regardless of objections which may be raised, it is an essential concentration since diagnosis is fundamental to clinical medicine and to epidemiology. But in addition, consideration of the pathological physiology and pathological anatomy of the disorder, of its pathogenesis as related to the immediate pathologic processes encountered in the patient, tends to stimulate interest in the origins and dynamics of the disease.

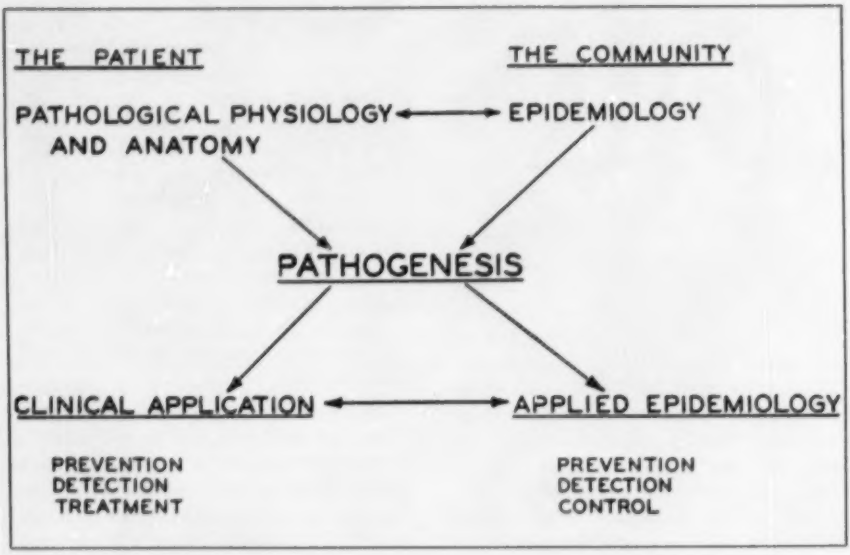
A first concern of epidemiology is to demonstrate the pathogenetic factors at play in the community which lead to the development of the morbid condition. Thus, those data derived from study of the patient and those derived from study of the mass phenomenon which yield information of the whys and hows of the occurrence of the disorder are integral parts of the same effort. In fact, there is at present more epidemiological evidence utilized in diagnosis and prognosis than is commonly realized.

Epidemiology extends the boundaries of the universe in which the disease can be viewed beyond the ward or clinic. It provides a third dimension to the understanding of disease by creating awareness of the nature of the environment in which the disability arises, of the factors in the community which contribute to its causation and, in turn, its effect upon the community. The epidemiological contributions to pathogenesis are largely made by study of the selective distributions of the disorder and of a primary etiological factor in the community under study. The orderly collection and analysis of community data presented in this context will illustrate for teaching the aggregation of disease in relation to age, sex, race, geographic location, season, economics and other social grouping; in brief, according to the characteristics of the population and environment.

Apart from their geographical and historical interest, the prime contribution of such data is to point out correlations which contribute to knowledge of causation. In teaching, emphasis should be placed not merely on the existence of such relationships but on the interpretation; when the meanings are not known, the invitations to research should be brought out; alterations in the distribution under different circumstances will also emphasize variations in the conditions of occurrence. Contributory factors other than the primary incitant are thus indicated. It seems to me preferable in this connection to discuss cause as a composite etiology resulting from multiple influences, rather than using the terms "multiple causes" and "multiple causations" which may be misleading as to comparative importance and are scarcely correct.

My suggestion is, then, that epidemiology be introduced into the medical curriculum as a study of pathogenesis, providing thereby the knowledge from which the applications to diagnosis and treatment, prevention and control are derived (see Figure 3).

FIGURE 3



Use of Communicable Disease

Because of the extensive information of the mechanisms involved and its completeness regarding widely diversified systems, the field of communicable disease is a most effective area for exposition of relationships between man, his environment and causative agencies. It presents the dynamic forces of host and parasite, of action and reaction between living organisms leading to equilibrium or extinction. The occurrence of disease falls into a proper perspective of being incidental to the broader biological phenomenon of parasitism. The availability of methods for identification of microorganisms makes it possible to demonstrate their distribution vis-a-vis disease, their reservoirs or intermediate hosts, and the modes of their transmission. There is, then, a wealth of material with which to present the whys, the hows and their relationships.

Composite Etiology and Causation

Infection clearly illustrates the concept of specific etiology, one of its great contributions to the advancement of medicine. Here it is possible to demonstrate that the particular disease occurs only in the presence of a certain pathogenic organism. On the other hand, it can also be demonstrated that the presence of that organism does not uniformly cause "the disease" even though it establishes an infection.

Knowing that the presence of a specific organism is essential to the production of a certain infection, the significance of a variety of additional influences in establishing the disease is then subject to evaluation. They can properly be called pathogenic

factors just as a bacterium is. Their secondary role in causation is placed in perspective by the demonstration that with treatment effective against the organism, the patient commonly recovers.

Examples of Composites of Etiological Factors in Infectious Disease

POLIOMYELITIS is an example of great current importance which provides illustrative material on many phases of epidemiologic dynamics. It is a disease in the process of epidemic evolution. The age distribution has been changing in temperate zones and concomitantly the size and frequency of epidemic prevalences have increased, an example of the effect of modernizing, not immunological, influences on reduction of infection. The relation to season is quite constant but distribution within a geographic area is irregular. The epidemic curve is a fine example for analysis. In warmer and less sanitary areas, widespread infection may occur but epidemics are less evident, illustrating the dampening influence of endemic equilibrium on the development of epidemics. The paralytic case is an accident arising from a large body of subclinical infection, not passive carriers, with familial aggregation a prominent feature.

The meaning of the familial concentration raises the question whether genetic influence is a predisposing factor or the family effect is a result of density of exposure. The effect of excessive exertion in precipitating paralytic disease, of tonsillectomy in precipitating bulbar poliomyelitis, of inoculations as precipitating factors, indicate stresses which may contribute to causation. The accumulated field data, together with laboratory study, permit demonstration of epidemiological analysis or deduction relating to modes of transmission. The localization of the disease attracts search for special features in the involved communities. The rapidly increasing information of the mechanisms of the disease process, interpretations from antibody studies, influence the direction of efforts toward prevention. The epidemiological evaluation of gamma globulin illustrates both the method and need for determining significance of effect. The collaboration of the highly specialized laboratory with clinical and field epidemiology is beautifully portrayed. In addition, attention can be called to the efforts to consider the social difficulties which the disease creates.

Financial support has made good treatment generally available to the patient, and the establishment of facilities has improved the probability of early detection and provides for continued care and assistance directed toward rehabilitation. Most of it is through voluntary public contributions. Here is a model of a disease problem in motion in which the epidemiological contributions to pathogenesis constitute the bulk of knowledge. The breadth of approach in a concerted, enlightened manner well exemplifies the epidemiological study of a disease in relation to the total community.

STREPTOCOCCAL INFECTIONS furnish material for demonstration of long-term trends and the causative relationship of one organism to a number of nosological entities of great importance. In this situation the so-called *simple* sore throat is the starting point of the bulk of the streptococcal conditions. The epidemiological variations in scarlet fever, erysipelas, puerperal sepsis, rheumatic fever and hemorrhagic nephritis are a rich field for instruction. In addition, their re-

lative infrequency in hot climates presents an example of natural prophylaxis.

The widely differing nature of factors which may be involved in causation is illustrated, especially by rheumatic fever. First of all, streptococcal infection, commonly pharyngitis, is the initiating agency, and 3 to 5 per cent of persons so affected develop rheumatic fever. There is familial trend which may be a predisposing genetic factor. Climatic and seasonal influences may also be considered predisposing. Commonly said to be related to crowding and poverty, in the United States the incidence is high in the wide open spaces of the Rocky Mountains. The meaning of the age distribution is not clear. The precipitating factor appears, however, to be not the streptococcus itself but a result of altered reaction to the products of streptococcal infection. Here, the studies seeking to determine that effect in relation to the biological activities of the streptococcus can emphasize the numerous measurable reactions of host and parasite which participate in pathogenesis of the infectious process. The organism is a highly organized living agent—not just a harmful particle. (To digress, I believe much of the objection to the concept of a specific organism in etiology is related to a lack of intimate acceptance of that fact; microbial action is still too close in many minds to the concept of an act of God, a miasm, or predestination.) The perpetuating effect of continued or repeated infection and other stresses upon the rheumatic process is similarly demonstrable. Thus, the secondary effect of a mild infection provides another opportunity for detailed examination of causation when the essential agent is known.

INFLUENZA illustrates the relation of qualitative and quantitative alterations in the infectious agent to the continuous recurrence of epidemics. *Enteric* diseases present the epidemiologic results of man's pollution of his own essential environment, while those which are primarily *affections of animals* broaden the concept of environment and community to include the bionomics of other biological species. The agencies involved in the transmission of their affections to man and the increased risks associated with occupational exposures are readily demonstrable.

The reverse side of epidemiological contributions to recognition of a composite etiology and pathogenesis is the demonstration of how epidemiology has in the true sense demonstrated the *multiple causes* of a generically designated pathological lesion. Pneumonia is a striking instance. Clinical and pathological characteristics of pneumonias, associated with a limited number of bacterial agents, had been well established and general epidemiological data had combined to give a great deal of information of their pathogenesis, including predisposing factors. In recent years, however, an imposing list of pneumonias of other etiology has been disclosed, largely by epidemiological demonstration of correlations observed among the affected groups which were different from those recognized with the bacterial infections. These include psittacosis, coccidioidomycosis, histoplasmosis, Q-fever, primary atypical pneumonia and even beryllium poisoning. It is a formidable display of contributions by epidemiological investigations of the biological environment to differential diagnosis, to prevention of therapy and first-rate instruction in the uses of epidemi-

ology in the everyday practice of medicine.

Epidemiology in Other Conditions

The great success of the epidemiological method in the field of infectious disease is clearly associated with the principle of a specific etiology, and the relative completeness with which it has demonstrated the interrelated pathogenic factors of etiology strongly recommends it as a basis for instruction. When in noninfectious disease epidemiological observation has demonstrated a significant correlation with some characteristic of the population or its environment, the search for a primary pathogenic agent and its sources is stimulated. This is well illustrated by industrial chemical poisonings, simple goiter, certain types of cancer. Nutritional deficiencies have furnished classical examples of how social customs and economic circumstances were pathogenic by influencing the character of diet. The latter area is still a promising field for investigation of relationships of differing dietary habits to variation in distribution of certain degenerative diseases.

It is not profitable to detail at this time all the problems which can be subjected to epidemiological study. It has already been pointed out that it represents application of the scientific method to study of situations, in general, which concern population groups.

The current undertakings to learn more through these epidemiological procedures of the pathogenesis of hypertension, arteriosclerosis, mental disorders and accidents indicate the growing willingness to expand the interest and to expend the thought and effort required. The instructor has a wide choice of examples for student presentation. The search for pathogenetic factors, especially the principal one, should be emphasized, together with the need for controlled evaluation of their significance. Moreover, continued attention should be directed to the probability that many of these categories are not single entities, and that difficulties in clarification of data may be caused by confusion from multiple etiologies. Consider the unthoughtfulness etiologically or otherwise of the term "heart disease." The search must be integrated intellectually with the information of pathogenic mechanisms obtained by clinical studies. For example, a relation between streptococcal infection and nephritis exists; the recent demonstrations of the importance of the Type 12 organism in the causation immediately asks what that type of organism possesses uniquely to make it especially injurious. No matter what other factors are involved that question is of first order. Furthermore, I would insist that because cause and pathogenesis of a given disorder have not yet been established, the fashionable trend toward social philosophy should not be accepted as a substitute for action directed toward determining factual information. If social influences contribute to a complex etiology or to continuation of a disturbance, they are pathogenic influences which can be disclosed and integrated by proper epidemiological investigation just as other factors can. Otherwise they belong in the rosy field of speculation. I believe that to consider mental disorders as functional disturbances unrelated to biochemical and physiological influences is little short of ignorance. To repeat, where a primary etiologic principle is not clear or is recognized

only by other correlations—such as genetics— care must be exercised, in teaching, to urge the same principles and standards in their consideration as for other situations. Even though the primary factor is not well described, accurate definition of secondary pathogenic influences provides effective information.

DIABETES is a good example for epidemiological study of "degenerative" disease. The basic disorder is a biochemical one related to deficiency in function of a specific structure. The selective distribution in the population points to a genetic determinant which again centers attention on familial concentrations. But the degree of deficiency varies, as evidenced by the differences in tolerance to stress in the form of infection or diet. Data also indicate that diabetes is less prevalent in populations on marginal diets than in those with excessive food intakes. Another consideration is the severe course of clinical diabetes which becomes evident in childhood in comparison with that developing in later life. The former results in early severe arteriosclerotic changes and arteriosclerosis and diabetes in the adult is a correlation of long standing; this fact pinpoints as well an opportunity for investigation of the arteriosclerotic process. Although these observations may be largely clinical in character, they emphasized the effort to integrate cumulative observations for understanding of the problem as a whole.

Prevention, Detection, Control

The foregoing discussion has related to epidemiology as a study of pathogenesis; of how and why the abnormal state comes about. The second major concern of epidemiology has been directed, as with clinical medicine, to formulation of the knowledge of pathogenesis for the practice of prevention, detection and treatment or control of disorders in the community at large. Even though the problem be one of continued prevalence, the value of the acute episode of unusual prevalence for teaching purposes has been fully demonstrated. Knowledge of source or reservoir of a pathogenic agent of whatever nature, the modes of its dissemination and other contributory factors provide a series of known correlations which can be applied promptly to interpretation of the situation. The more fixed and immediate the relationships, the more readily their participation in the event under study is discoverable and becomes part of general medical knowledge. Deviations in pattern are valuable in demonstrating different mechanisms.

The use of communicable disease as a basis for instruction in this area has many advantages. Epidemics of this nature commonly occur within a limited time range so that their investigation appears feasible even to the impatient student. With the knowledge of immunity, susceptibility and reservoir, the quantitative concept of disease as a mass reaction governed by the concentration of interacting components is readily perceived, and I believe the student more easily relates the individual patient to a place in the affected family or larger community. The influence of preventive procedures, or natural forces, in limiting the disease or altering its pattern is well illustrated. Finally, the need for continued research and investigation in order to gain these objectives in other situations should be constantly brought out and that many procedures employed in practice are merely pal-

liative awaiting more definitive information. The features and concepts of prevention, detection and control, so well established in infection, can then be shown in application to problems of occupation, nutrition, psychic disturbances or whatever is desired.

When considering an example of unfinished business, no matter what its nature, emphasis should be placed upon the continued need to explore the community farther and to broaden the time interval through which association between phenomena is sought. The benefits are well illustrated by congenital cardiac abnormalities, mottled enamel and dental caries, serum hepatitis and pulmonary cancer. One must refer to rehabilitation—but not as some have —as the preventive medicine of the future. Since residual difficulties are part of the course of many diseases, they can also be viewed as part of pathogenesis in relation to outcome and the application of aids to their relief. One might turn it into a discussion of the epidemiology of disability or handicaps, seeking prevention and treatment.

Role of the Physician

It is somewhat unrealistic to insist that the practicing physician can be the complete general specialist required to meet all the angles which can be suggested. If he were able to give meaningful diagnosis and treatment to all the conditions he encounters, he would be remarkable. He cannot be the complete epidemiologist, there is none; nor the complete sociologist, economist, psychologist, engineer, etc. It is not expected that every physician be expert in all branches of medicine. But as in the matter of pregnancy, although he may have little or no interest in obstetrics he usually realizes that there is a composite etiology in which a specific agent and a number of environmental factors, biological, physical and social, participate; that it definitely affects the status of the community as well as exerting a prominent influence on the individual; that it is in some manner communicable. It creates a variety of stresses which must be considered in relation to illness.

Our purpose is to make epidemiology a part of the armamentarium of the medical student and of the physician through an awareness of its importance in furnishing knowledge of causation and the various factors which contribute to it; of diagnosis, prevention and treatment. In the process a better understanding of community can be established; the relation of the community to the patient's problem and of the patient to the community's problem is brought out. The community is the practitioner's laboratory. The contributions which the physician can make to his community and to advancement of knowledge by keeping records, by efforts at early detection, by notification of cases and by diligence in employing established preventive measures are fundamental. The physician should not be misled by the idea that infection has vanished (in reality, he knows better from his practice), but that its control requires constant attention.

At this point I want to emphasize the physician's relation to his basic epidemiological community, the family. There is no worse phrase than "family history—negative." This unit has been splintered by health, social and occupational agencies just as the physician has been accused of viewing the patient in parts. Nevertheless, an increased appreciation of the fre-

quency with which many disorders tend to aggregate in families and households is another important objective of epidemiological teaching. Hence, when a patient presenting evidence of one of those conditions is seen by a physician, he is in position to know that other members of that family are either involved or are likely to develop manifest disturbances of the same nature. Regardless of circumstances, he should assume the responsibility for instituting what preventive measures can be provided to that family. I would like to discard the term "carrier" in relation to infection and to emphasize in its place the realization that these other members of the family are actively infected and should be subjected to treatment as intensively as the frank case if the risk to themselves and to the rest of the community is to be eliminated. In the event of genetic disorders the reduction of contributory stresses, environmental, dietary, may be health saving. In addition, the family provides a known reservoir of potential disease which can be studied technically for identification of the nature of a genetic defect and of the additional stresses which exaggerate that defect into a mechanism of harm. Alertness to these possibilities together with reasonable records make recognition of new situations possible. The physician can through this knowledge be an epidemiologist in practice as Pickles has so beautifully indicated, and can also contribute to fundamental medical science.

When to Teach

Ideally the teaching of epidemiology should permeate all phases of medicine which relate to pathogenesis and its applications. The background for appreciation of community and ecology might well be founded in general education, if the objectives so forcefully proclaimed at present were pursued rather than being obscured by jargon. One can support a thesis that it be introduced before clinical concentration begins so as to incorporate the concepts in the basic consideration of disease. There are advantages. On the other hand, relating epidemiology to experience with patients has the advantage of blending discussion of the two phases of pathogenesis and their further applications in prevention and control. To repeat, the exposure should be a continuous one.

Mention has been made of the efforts being made in the social field. That is but one phase of epidemiology. The same material—or the opportunity to study numerous families—could be of great value for general epidemiology. Of one thing I am sure, the more epidemiology is recognized and believed by the instructors to be an integral part of medicine and medical research, rather than some esoteric or merely intellectual activity, the greater its effectiveness will be.

Future Prospects

One of the hopes of education is that the student may be encouraged to understand and to participate in future developments of the field. The many conditions whose epidemiology needs mapping and the increasing efforts, as well as opportunities, to study them in the community on an extended term is an earnest of the trend to application of the methodology in a variety of problems. But it also brings out the need for the constant inclusion of fundamental science in epidemiological studies. Recognition of the trend may stimulate the physician to aid in that

movement by utilizing the resources his community provides to him for investigation of those problems.

Beyond the application of method, a greater objective can be viewed. Taking again a page from the epidemiology of infection, it has been possible in many instances to provide measurements of susceptibility and resistance so that the potential at risk in a community can be estimated and measures taken either to eliminate the susceptibility or the exposure. The rapidly accumulating knowledge of the pathogenesis of abnormalities of other origin recommends that the epidemiology of the future direct its attention to determining those persons who will develop active disorders when subjected to the same stresses which others tolerate within their reserves. They are the ones for whom protective provisions should be made before the break occurs, for maintenance or cure, once the break has occurred, is much more difficult and problematic. The possibility of identifying these persons and the important stresses, for measuring reserve and for applying preventive measures can be greatly enhanced if the broad objective is accepted. At the same time there will be provided scientific standards by which to measure and to maintain health. This to me is the preventive medicine of the future—of the near future—when clinical disease will properly be a failure in prevention. The medical student and the physician of the future should be prepared for it.

Report, 1904

THERE ARE AT PRESENT in the United States, including the Philippine Islands, 128 regular schools, 19 homeopathic, 10 eclectic, 3 physio-medical and one nondescript, a total of 161. Of this number, 66 of the regular schools belong to the Association and 65 are non-members. . . . The fees vary from $35 a term to $200. . . . A very few colleges give a discount to the sons of physicians and clergymen.—From the report of the secretary-treasurer, *Minutes of the 14th Annual Meeting of the Association of American Medical Colleges*, June 6, 1904.

National Intern Matching Program, Incorporated

SCHEDULE OF DATES

for

The Official Cooperative Plan of Internship Appointments for First-Year Internships

for 1955-1956

1. OCTOBER 1954. Hospital directory published, containing the number of internships offered, and the description, at each participating hospital. This information will also be published in a late September issue of the *Journal* of the AMA.

2. OCTOBER 1954. Student directory published containing name and medical school of each participating student.

3. OCTOBER 1, 1954-JANUARY 10, 1955. Period for students to make application for internship to hospitals. The student should file a copy of his application with the dean's office, as well as one directly with the hospital. The office of the dean will send this copy of the student application to the hospital at the time he submits the student's credentials and the recommendations. Students are urged wherever possible to apply before December 19, 1954.

4. OCTOBER 1, 1954-DECEMBER 10, 1954. The deans may send letters of recommendation to the hospitals at any time after October 1, 1954, but insofar as possible letters should be sent by December 10, 1954, so that the hospitals may have this information when the students are interviewed.

5. FEBRUARY 1, 1955. Closing date for receipt at central office of student and hospital confidential rank order lists. The student list should be submitted as early as the senior has definitely decided about the exact rank order of the hospitals.

6. FEBRUARY 17, 1955. Confidential student list is confirmed to student. Confidential hospital list is confirmed to hospital.

7. FEBRUARY 21, 1955. Closing date for accepting (in Chicago) corrections to student or hospital confidential rank order lists.

8. FEBRUARY 23, 1955. Matching operation begins.

9. MARCH 12, 1955. Results of the matching plan are mailed from Chicago to students and to hospitals.

10. MARCH 14, 1955. Results are given to students by deans. Hospitals receive results.

11. MARCH 14-24, 1955. Hospitals send contracts to matched students and students sign and return the contracts.

The Use of Open-Channel Television in Postgraduate Medical Education

ROBERT S. WARNER and JOHN Z. BOWERS

THIS IS A report on the use of open-channel television as a medium for postgraduate medical education. Since this was the first endeavor in the field, an effort was made to determine the response of the profession to the programs.

The Division of Graduate and Postgraduate Medical Education, University of Utah College of Medicine, supported in part by the W. K. Kellogg Foundation and with the active cooperation of the Utah State Medical Association, provides a program of continuation education for physicians in Utah and the intermountain West. Since many physicians in the area practice in isolated communities, considerable attention has been directed toward methods of bringing medical education to the rural practitioners.

In addition to short postgraduate courses at the Salt Lake County General Hospital, teaching teams present "rural seminars" in outlying areas. However, continuation education should be available to the practitioner under such conditions that his practice is not significantly dislocated, particularly when there is a single physician for a rural community. Television seems to have considerable potential for such an approach to continuation education. We were sufficiently interested in this possibility to initiate the program reported here.

Closed circuit television has been used for medical telecasts both in color and black and white. In addition, medical education directed at the layman has been televised on local and national programs. Open circuit television has not been used for medical educational programs at the physician level. Recognizing the problems relating to a lay audience for the programs, we felt that the potentialities for continuation education of the practicing physician were sufficiently great to justify this study.

Methods

Technical personnel, equipment and television time were made available without charge by Bennett Larson, manager of KDYL-TV, a local NBC affiliate. The telecast was scheduled from 7 to 8 A.M., since this hour seemed to be most convenient for the practicing physician and was free from interference by commercial television schedules. The clinics were

Dr. Warner is an instructor in preventive medicine at the University of Utah College of Medicine, and Dr. Bowers is dean of the Utah medical school.

telecast by remote control from the amphitheater of the Salt Lake County General Hospital.

An unlisted telephone was installed at the site of the telecast and physicians in the reception area were given the number and urged to place questions by collect calls.

KDYL-TV, with its transmitter located on Mount Vision, an 8500-foot peak, has a definite reception radius of about 150 miles from Salt Lake City. There are 736 physicians in this zone and an additional 210 doctors in the "fringe" area of inconstant reception. The definite reception area includes the northeastern third of Utah, which contains about 75 per cent of the practicing profession, and a number of physicians in isolated areas. In addition, physicians in southeastern Idaho and southwestern Wyoming are in the reception area.

The four television clinics were transmitted at weekly intervals. Visual aids for each clinic included x-rays, electrocardiographic records, projected lantern slides and photographs and gross and microscopic pathological specimens. Printed charts were used for case histories, tabulations and diagrams.

All of the clinical material used on the telecasts, including case histories, x-rays, electrocardiograms and photographs, was altered so that any identifying or potentially offensive features were obliterated. Legal clearance was obtained from each patient who appeared on the clinic in person or whose medical record was used.

Presentation of Clinics

In planning the clinics an effort was made to explore various methods of presenting material by:

(1) Discussion of a variety of medical problems by a single physician.

(2) Discussion of a single problem by a group of physicians.

(3) Discussion of a field of medicine by a group of physicians utilizing a variety of specialized audio-visual techniques.

(4) A group of diagnostic clinics.

November 10, 1953

Clinic Number 1
X-ray Diagnosis of Calcifications in the Abdomen

A patient was presented in whom diabetes mellitus had been detected because of radiological evidence of bilateral calcification of the ductus deferens. The radiologist discussed diagnostic calcifications in the abdomen using a series of 30 x-rays illustrating specific calcified densities as shown in a flat plate of the abdomen. The lesions demonstrated included renal, ureteral and vesical calculi, biliary calculi, calcified psoas abscess and a fetus.

November 17, 1953

Clinic Number 2
Gastro-Intestinal Hemorrhage in the Elderly Patient

The medical history and clinical course of an elderly patient with a gastrointestinal hemorrhage due to an ulcer on the lesser curvature of the stomach were presented. The medical management of gastrointestinal hemorrhage was discussed by an internist, and a member of the surgical staff discussed indications for the various operative procedures used in cases of gastrointestinal bleeding. The radiologist pointed out the advantages and problems relating to early x-ray visualization of the stomach and duodenum. The pathologist demonstrated the gross pathological speciment removed at sur-

gery; the large ulcer in the stomach televised clearly. Microscopic sections of the ulcer area were projected on a translucent screen and televised with the comments of the pathologist.

November 24, 1953

Clinic Number 3
The Approach to Congenital Heart Disease

The medical history and positive physical findings were presented in a three-year-old boy with pulmonic stenosis and intra-atrial septal defect as a part of Turner's Syndrome. Emphasis was placed on the congenital heart lesion. The cardiologist discussed the clinical diagnostic features and then demonstrated the various procedures used in establishing the specific etiological lesion. Printed charts, x-rays, catheterization data and medical illustrations of the lesion were utilized. The heart murmurs were actually broadcast in association with continuous visual sound tracings by the use of the educational electron electrocardioscope. The ECG was also televised from this instrument.

TABLE 1

Cumulative Audience of Clinics

	Viewers		Non-Viewers	
	Per cent	Number	Per cent	Number
Total	48.9	342	51.1	358
Salt Lake County	40.2	162	59.8	241
*Outside Salt Lake County	60.6	180	39.4	117

*In all tables this term refers to a predominantly rural physician population in contrast to the completely urban physician population of Salt Lake County.

December 1, 1953

Clinic Number 4
A Diagnostic Clinic

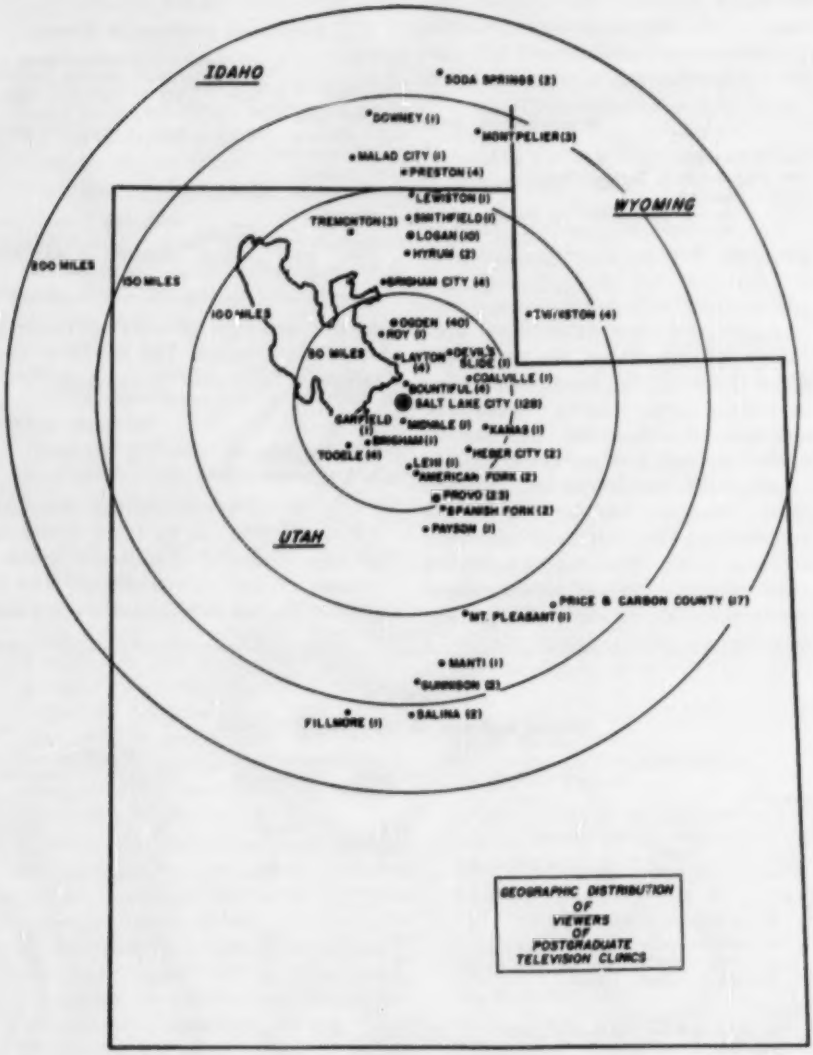
This clinic presented the essential diagnostic findings in three cases: a solitary coccoidal granuloma, a carcinoma of the splenic flexure and a patent ductus arteriosus. Following

TABLE 2

Size of Audience of Individual Programs

	Viewers		Non-Viewers	
	Per cent	Number	Per cent	Number
Clinic #1				
"X-ray Diagnosis of Calcifications in the Abdomen"	21.3	149	78.7	551
Salt Lake County	15.6	63	84.4	340
Outside Salt Lake County	29.0	86	71.0	211
Clinic #2				
"Gastro-intestinal Hemorrhage in the Elderly Patient"	27.7	194	72.3	506
Salt Lake County	18.7	75	81.3	327
Outside Salt Lake County	39.8	118	60.2	179
Clinic #3				
"The Approach to Congenital Heart Disease by the General Practitioner"	31.6	221	68.4	479
Salt Lake County	25.2	102	74.8	301
Outside Salt Lake County	40.2	119	59.8	178
Clinic #4				
"A Diagnostic Clinic"	25.6	179	74.4	521
Salt Lake County	17.5	71	82.5	332
Outside Salt Lake County	36.5	108	63.5	189
TOTAL	48.9	342	51.1	358

FIGURE 1



each of the case presentations, the physicians were urged to arrive promptly at a diagnosis. The second part of the program consisted of the presentation of the pathological material and a short discussion of the important clinical diagnostic features of each case.

Pre- and postoperative auscultatory findings were broadcast using

tape recordings on the patient with the patent ductus arteriosus.

Evaluation

Before the initiation of the television series, procedures for the evaluation of the educational impact, physician interest and lay interest were designed. These included:

(1) A telephone interview with each physician in the area of definite television reception upon completion of the proposed television series.

(2) A questionnaire to be completed at the end of each telecast.

(3) A telephone survey after each telecast to determine the number of lay viewers.

The questions for the evaluation procedures were designed with the assistance of Dr. Gerald Neuman, clinical psychologist, and the actual telephone interrogations were conducted by a marketing research firm.

The cooperation of the practicing physicians in responding to the telephone interviews was particularly gratifying. This was accounted for in part by the fact that the president of the Utah State Medical Association, Dr. Frank Bartlett, wrote to each physician urging his cooperation.

Telephone interviews were completed with 567 doctors out of the potential audience of 700 practicing within a 150-mile radius of the medical school. Because the number of physicians contacted represented 81 per cent of the doctors in the area of definite television reception, the actual base of 567 contacted was projected to 700. This projection was based on the premise that the viewing habits of those not contacted would not vary significantly from those contacted.

Geographic distribution of those physicians who saw one or more of the televised clinics is indicated in Figure 1. The cumulative physician audience in the 43 communities in Utah, Idaho and Wyoming is indicated in Table 1.

TABLE 3

Acquisition of New Facts Through TV Clinics*

	New Facts	No New Facts	Qualified	Total
Total	74.0%	17.3%	8.7%	100%
Area:				
Salt Lake County	61.1	25.9	13.0	100.0
Outside Salt Lake County	85.6	9.6	4.8	100.0

*Based on viewers only.

Of 342 physicians participating in the clinics, over half were located outside Salt Lake County. This group represents 60.6 per cent of those physicians who do not have easy access to the postgraduate facilities of the medical school. Table 2 gives the size of the audience for each individual clinic, and clearly demonstrates that there was greater participation by physicians who live at a distance from the medical school.

It is interesting to compare the in-

TABLE 4

Educational Aspects of Television Clinics*

	Refreshment	Renewed Interest	Little or No Stimulation	Total†
Total	61.0%	52.7%	9.7%	123.4%
Area:				
Salt Lake County	51.9	35.9	17.6	105.4
Outside Salt Lake County	69.2	67.8	2.7	139.7

*Based on viewers only.
†Totals equal more than 100 per cent due to multiple response between "Refreshment" and "Renewed Interest" groups.

TABLE 5
Attitudes Regarding Types of Postgraduate Courses

	TV Clinics	Intramural Courses	Rural Seminars	Other	Total
Total	46.7%	25.4%	16.1%	11.8%	100.0%
Viewers of one or more TV clinics	66.1	17.0	11.2	5.7	100.0
Non-viewers of TV clinics	28.3	33.4	20.7	17.6	100.0

formation accumulated on attendance at the "television" postgraduate courses with those for our intramural programs. Physician attendance for the eight intramural courses presented at the Salt Lake County General Hospital in 1953 totaled 334. Maximum attendance for any one course was 66, as contrasted with a maximum figure of 221 for a television clinic. In addition, 230 physicians were sufficiently interested to view more than one of the televised educational programs.

Some idea as to the educational value of the postgraduate television clinics is indicated in Tables 3 and 4. New facts were obtained by 74 per cent of those viewing one or more of the clinics. Sixty-one per cent reported that previously acquired knowledge had been revitalized, while 53 per cent reported renewed interest in a specific field. The rural impact of the program is exemplified by the fact that 85 per cent of the physicians distant from Salt Lake City gained new facts as contrasted with 61 per cent of the practitioners in proximity to the medical center.

In an attempt to determine the most popular form of postgraduate medical education, physicians were asked to designate the type of program which they preferred. (The choice of programs included postgraduate television clinics, short courses given at the Salt Lake County General Hospital and rural seminars given at county medical society meetings.) Table 5 shows that the televised clinics were the first choice of 46.7 per cent of *all* physicians interviewed, including many who had not seen the clinics. Sixty-six per cent of those who viewed the clinics felt that they were the preferable form of postgraduate medical education. The rural seminars and the courses given at the medical center were listed as second choice by 30 per cent of the physicians interviewed.

TABLE 6
Attitudes Regarding Method of Television Presentation

	First Choice	Second Choice
Discussion of specific subject by panel of physicians	65.2%	19.4%
Discussion of specific subject by one person	19.7	35.6
Diagnostic problems solved during telecast	6.2	30.3
Combination of three	4.7	5.1
Undecided	4.2	9.6
TOTALS	100.0%	100.0%

Table 6 indicates attitudes regarding method of television presentation. The content and presentation of each clinic was rated "very good" by 80 per cent or more of the doctor audience. Sixty-five per cent of the phy-

sicians preferred a discussion of a specific subject by a panel of physicians.

Comments recorded during the telephone interviews were generally favorable and many constructive suggestions were given. Only 4.6 per cent of all the physicians felt that medical clinics should be limited to closed circuit television; television was thought to be a poor educational medium by 3.2 per cent of the doctors.

Three separate telephone surveys in Salt Lake County indicated that 0.8 per cent of the lay population watched the early morning medical telecasts. No comments from the lay public were received by either the medical school or the television station.

In summary, we feel that open-channel television is a valuable addition to the field of postgraduate medical education. A survey of the physician audience indicates that this medium is particularly effective for rural practitioners. Obviously, there are many applications of television for postgraduate medical education which require further exploration.

Students and Hospitals

A FIVE-YEAR ARRANGEMENT, if it is brought about, by which the year of intern service in the hospital is made a real educational year, is of more importance to the hospital than the college. The college needs the hospital, but the hospital needs the college even more. The hospital needs the quickening, elevating influence of a teaching body. For it is, I think, the universal experience that it is practically impossible to secure real high-grade service for the sick poor unless we have the stimulating presence of the students in the wards.—From an address by Dr. JOHN M. DODSON, of Rush Medical College, published in the *Proceedings of the 24th Annual Meeting of the Association of American Medical Colleges*, February 25, 1914.

1953-54 Study

Geographic Distribution of Medical Education Facilities and Medical School Applicants

JOHN M. STALNAKER and SARAH COUNTS

THERE ARE TODAY five freshman places available in medical school for every 100,000 population in the United States. With the exception of the Mountain and Pacific states, which have three freshman places in their medical schools per 100,000 population, each major geographic division of the country has close to this national average. While medical schools are located in every division of the country, there are 10 states which do not have a medical school. At the other extreme, Vermont, Nebraska, the District of Columbia and Louisiana each have 10 or more freshman places available per 100,000 population.

Mr. Stalnaker is director of studies and Sarah Counts, Ph.D., is research associate for the Association of American Medical Colleges.

Of the states with no medical school, six—Montana, Idaho, Wyoming, New Mexico, Arizona and Nevada—have low population density. Also, qualified residents of these states will be accepted by the two state medical schools in this area at the University of Colorado and the University of Utah. Maine, Rhode Island, New Jersey and Delaware, on the other hand, have relatively high population density but do not have a medical school. Any applicant, of course, may apply to any medical school which does not have residence restrictions. Out-of-state students are welcomed by the private medical schools, and some tax-supported schools accept a few nonresident students, but few state schools have

TABLE 1

Geographical Distribution of Medical Education Facilities and of Medical School Applicants, 1953-54

Division and State	Availability of Medical Education in Each State		Applicants from Each State		
	1 Number of Medical Schools	2 Freshman Places per 100,000 Population	3 Total per 100,000 Population	4 Accepted per 100,000 Population	5 Per Cent Accepted
New England	6	5	9	4	47
*Maine	—	—	5	3	56
*New Hampshire	1	5	6	3	57
Vermont	1	14	9	6	73
*Massachusetts	3	6	9	4	45
*Rhode Island	—	—	9	3	37
*Connecticut	1	4	11	5	46

Division and state	Availability of Medical Education in Each State		Applicants from Each State		
	1 Number of Medical Schools	2 Freshman Places per 100,000 Population	3 Total per 100,000 Population	4 Accepted per 100,000 Population	5 Per Cent Accepted
Middle Atlantic	15	5	14	6	45
New York	9	6	15	7	44
*New Jersey	—	—	13	6	45
*Pennsylvania	6	7	11	5	48
East North Central	13	5	8	5	61
Ohio	3	4	9	5	59
Indiana	1	4	7	5	61
Illinois	5	6	8	5	58
Michigan	2	4	8	5	62
Wisconsin	2	5	6	5	73
West North Central	10	6	8	5	67
Minnesota	1	4	7	5	71
Iowa	1	5	6	5	81
Missouri	3	6	5	3	66
North Dakota	1	6	9	7	80
South Dakota	1	5	8	6	72
Nebraska	2	12	17	9	55
Kansas	1	6	9	5	62
South Atlantic	15	5	8	5	56
*Delaware	—	—	9	4	43
Maryland	2	8	8	5	60
*District of Columbia	3	37	18	8	48
Virginia	2	5	8	5	61
West Virginia	1	2	8	4	47
North Carolina	3	5	7	4	53
South Carolina	1	4	7	5	66
Georgia	2	4	7	4	57
*Florida	1	2	10	6	57
East South Central	6	4	7	5	63
Kentucky	1	3	6	4	66
Tennessee	3	8	7	5	77
Alabama	1	3	7	4	51
Mississippi	1	3	9	5	58
West South Central	7	6	8	5	68
Arkansas	1	5	9	6	67
Louisiana	2	10	9	6	70
Oklahoma	1	4	8	5	66
Texas	3	5	7	5	67
Mountain	2	3	9	5	57
*Montana	—	—	9	5	55
*Idaho	—	—	8	5	67
*Wyoming	—	—	9	5	54
Colorado	1	6	10	6	56
*New Mexico	—	—	5	2	49
*Arizona	—	—	8	5	72
Utah	1	8	15	9	57
*Nevada	—	—	5	0	00
Pacific	7	3	8	4	50
Washington	1	3	8	5	60
Oregon	1	5	8	5	60
California	5	3	9	4	46
Average or Total	81	5	9	5	55

*No tax-supported school.

recently accepted more than 10 per cent of their class from out-of-state students. As a result of the fact that most state schools limit themselves largely to residents of that state, about two-thirds of the freshman students enter medical schools in the state in which they live.

Table 1 gives the basic figures in detail for each state. These figures are based on the applicant statistics for 1953-54[4] and on other published data.[5] They follow the general pattern of the original article prepared in 1952 by Dr. Davenport.[2] It should be noted that Table 1 has two parts. First, columns 1 and 2 describe the availability of medical education facilities in each state. In some states these facilities are used primarily by state residents; but in other states many of the available freshman places are filled by out-of-state residents. Second, columns 3, 4 and 5 pertain to the applicants and accepted students *from* each state regardless of the location of the medical school where they apply or enroll.

The proportion of the population of each state which applied to any U. S. medical school in 1953 is given in column 3. A larger proportion of the residents of the Middle Atlantic division apply to medical schools—14 per 100,000 population as contrasted with the national average of nine. The District of Columbia has 18 applicants per 100,000 population, followed by Nebraska with 17, and Utah and New York, each of which has 15 per 100,000 population. At the other extreme, Maine, New Mexico and Nevada (states without a medical school), and Missouri (with its three medical schools) all have ratios of only five students applying to medical schools per 100,000 population.

Success of the applicants residing in the various states in gaining acceptance by a medical school is reported in columns 4 and 5. On the average, five applicants are accepted per 100,000 population. Nebraska, Utah and the District of Columbia have a relatively large number of their applicants accepted. At the other extreme, only eight students from Nevada applied to any medical school. None of these were accepted so their ratio is zero.

Somewhat more than half of the students who apply to medical school are accepted. The percentage of the applicants from each state who gain an acceptance is given in column 5. Students from Iowa, North Dakota and Tennessee have the highest acceptance ratios. The applicants from Rhode Island, Delaware and New York have much lower acceptance ratios.

Although there is an overall decrease in the number of applicants this year from the preceding years, a comparison of ratios reported in Table 1 and similar figures reported for the preceding year shows a high degree of consistency. The various states maintain approximately the same relative positions as in the preceding years.

There continues to be a slight positive relationship between the availability of medical education within a state and the number of applicants who seek a medical education. If medical schools are available in the state, more students from that state show an interest in the study of medicine. Also the larger the number of physicians relative to the population of the state, the greater is the interest of the students of that state in obtaining a medical education.

In the states which have a high per capita income level, there are more applicants relative to population than

in states where the income level is low. Table 2 shows this relationship. The number of colleges in each state[7] and the average income of physicians[6] were also studied, but neither bore a relationship to the relative number of applicants to medical school.

3. Other information was also studied in relationship to the number of applicants per state population. It was found that the number of colleges and the average income of physicians in the state bore no relationship to the number of applicants from that state for medical school, but that the average income per capita was related to the relative number of applicants in the state applying to medical school.

TABLE 2

States Tabulated According to Income Per Capita and Applicants Per Population

Income per Capita	Number of applicants per population			
	Low	Average	High	Total
High	1	7	9	17
Average	7	4	5	16
Low	8	5	3	16
Total	16	16	17	49

A relationship between the per capita income and interest in medical education is not surprising since medical education can be costly to the student and his family. Many exceptions, even so, must be noted. In the three states of Florida, Mississippi and Arkansas, for example, income per capita is low, but the relative number of applicants is high. On the other hand, in Nevada the income is high and the number of applicants is low. A recent study of student finances[1] indicated that the income of parents of medical students varies a great deal and that it is possible for medical students to pursue their professional education at a relatively low outlay.

Summary

1. From the basic data of the 1953-54 study, applicants are presented as a ratio of the state populations.

2. These data, now being reported for the third consecutive year, confirm that the ranking of the states on the various items studied is relatively stable.

REFERENCES

1. Counts, Sarah and Stalnaker, John M.: "The Cost of Attending Medical School," *Jour. Med. Edu.*, Vol. 29, No. 2, 20-25, February 1954.

2. Davenport, Harold A.: "Ratio of Applicants to Population by States," *Jour. Med. Edu.*, Vol. 27: 330-332, September 1952.

3. Hansen, Harry (Ed.), "The World Almanac," New York World-Telegram. New York. 1952.

4. Stalnaker, John M.: "Study of Applicants," *Jour. Med. Edu.*, Vol. 29, No. 4, 13-20, April 1954.

5. Stalnaker, John M. and Counts, Sarah. "Ratio of Applicants to Population, 1952-53," *Jour. Med. Edu.*, Vol. 28, No. 10, Part 1, 28-32, October 1953.

6. Weinfeld, William: "Income of Physicians, 1929-1949," *Survey of Current Business*, U. S. Department of Commerce, 9-26, July 1951.

7. Wilkins, Theresa: "Higher Education," U. S. Government Printing Office, Washington, 1953.

Official Program for the Sixty-Fifth Annual Meeting

Monday, October 18, 1954

9:00 A.M.—SHORT BUSINESS MEETING
Convention Hall
Introduction of New Deans
Naming of Nominating Committee

9:30 A.M. PRESIDENTIAL ADDRESS—Stanley E. Dorst
10:00 A.M. HIGHLIGHTS OF THE INSTITUTE on the Teaching of Pathology, Microbiology, Immunology and Genetics

12:00 noon LUNCH

2:00 P.M. ROUND TABLE DISCUSSIONS (going on simultaneously)
The Teaching of Pathology, Microbiology, Immunology and Genetics
Round Table A—*Convention Hall*
Round Table B—*North Foyer*
Round Table C—*South Foyer*
Round Table D—*Parlors A and B*
Round Table E—*Radio Room*
Round Table F—*North Porch*
Round Table G—*Blue Room*
Round Table H—*Hunt Room*

7:00 P.M.—ANNUAL DINNER OF THE ASSOCIATION
Main Dining Room
Presentation of the Borden Award in the Medical Sciences for 1954—Ashley Weech, Chairman of the Committee on the Borden Award; John H. McCain, Secretary of the Borden Company Foundation, Inc.

The Association Pays Tribute to the Contributions of Joseph C. Hinsey in his Nine Years of Service on the Executive Council—Ward Darley

Address—The Rev. John Courtney Murray, S.J., Professor of Theology, Woodstock (Md.) College

Tuesday, October 19, 1954

9:00 A.M.—SHORT BUSINESS MEETING
Convention Hall
Report of Nominating Committee
Election of Officers for 1954-55

9:30 A.M. THE RESULTS OF THE ITHACA CONFERENCES ON THE TEACHING OF PSYCHIATRY—Theodore Lidz
Discussion

10:20 A.M. THE RESULTS OF THE COLORADO SPRINGS CONFERENCE ON PREVENTIVE MEDICINE IN MEDICAL SCHOOLS—John P. Hubbard, Duncan W. Clark

11:00 A.M. THE RESULTS OF THE 1953 INSTITUTE ON THE TEACHING OF PHYSIOLOGY, BIOCHEMISTRY AND PHARMACOLOGY—Julius H. Comroe
Discussion

12:00 noon LUNCH

2:00 P.M.—PROFESSIONAL EDUCATION AS A UNIVERSITY FUNCTION
Convention Hall
As Viewed by a University Chancellor—Henry T. Heald
As Viewed by a Law College Dean—Shelden D. Elliott

3:50 P.M. REPORT OF SPECIAL INTEREST ON THE STUDENT A.M.A.—Russell Staudacher

4:00 P.M. OPEN HEARINGS ON ANNUAL REPORTS OF COMMITTEES (going on simultaneously)
(1) Audiovisual Education—*North Porch*
(2) Continuation Education—*Mezzanine*
(3) Editorial Board—*Mezzanine*
(4) Financing Medical Education—*Parlor B*
(5) Graduate Medical Education—*South Foyer*
(6) International Relations in Medical Education—*Hunt Room*
(7) Internships and Residencies—*Radio Room*
(8) Licensure Problems—*Parlor A*
(9) Medical Care Plans—*Parlor C*
(10) Planning for National Emergency—*Convention Hall*
(11) Public Information—*Parlor 143*
(12) Teaching Institutes and Special Studies—*North Foyer*
(13) Veterans Administration—Medical School Relationships—*North Porch*

7:00 P.M. DINNER
9:00 P.M. FILM PROGRAM of General Interest—*Hunt Room*
FILM PROGRAM on Medical Teaching—*South Foyer*
MEETING of 1954-55 Executive Council—*Radio Room*

Wednesday, October 20, 1954

9:00 A.M.—BUSINESS MEETING

Convention Hall

Roll Call

Approval of Minutes of 64th Annual Meeting

Report of the Chairman of the Executive Council—Joseph C. Hinsey

Report of the Secretary and Editor—Dean F. Smiley

Report of the Treasurer—John B. Youmans

Report of the Director of Studies—John M. Stalnaker

Report of the Director of the Medical Audio-Visual Institute—J. Edwin Foster

Reports of Committees:

(1) *Audiovisual Education*—Chairman, Walter A. Bloedorn

(2) *Continuation Education*—Chairman, James E. McCormack

(3) *Editorial Board*—Chairman, John Z. Bowers

(4) *Financing Medical Education*—Chairman John B. Youmans

(5) *Graduate Medical Education*—Chairman, Kendall Corbin

(6) *International Relations in Medical Education*—Chairman, Francis Scott Smyth

(7) *Internships and Residencies*—Chairman, Currier McEwen

(8) *Licensure Problems*—Chairman, Charles A. Doan

(9) *Medical Care Plans*—Chairman, Dean A. Clark

(10) *Planning for National Emergency*—Chairman, Stanley Olson

(11) *Public Information*—Chairman, John L. Caughey

(12) *Teaching Institutes and Special Studies*—Chairman, George Packer Berry

(13) *Veterans Administration—Medical School Relationships*—Chairman, R. Hugh Wood

Confirmation of Time and Place of 66th Annual Meeting

Presentation of Resolutions.

(All resolutions must be presented in writing to the Secretary prior to 7 P.M., October 19, 1954)

Installation of Officers for 1954-55

Information

Registration

Registration will begin Sunday, October 17, at 9 A.M in the lobby and will continue through Wednesday, October 20, until 12 noon. There is no charge for registration and all persons attending the meeting should register.

Pre-Conference Meetings

A special meeting on Postgraduate and Continuation Medical Education has been arranged for Sunday, October 17, at 10 A.M., by Dr. James E. McCormack and the Committee on Continuation Education. All are welcome.

A Symposium on Graduate Medical Education has been arranged for Sunday, October 17, at 2:30 P.M., by Dr. Kendall B. Corbin and the Committee on Graduate Medical Education. All are welcome.

Meetings of various Association committees will be called by their chairmen for dinner or for the evening on Sunday, October 17.

Annual Reports of Standing Committees

Mimeographed copies of the annual reports of the Association's standing committees will be given each person as he registers. Each is asked to bring such of these reports as he will need in attending the open hearings on these reports Tuesday at 4 P.M.

Representatives of the following companies will be in attendance at the 65th Annual Meeting:

Lea and Febiger Publishers—Henry L. Hudson

J. B. Lippincott Company—Walter R. Brinkman, Walter Kahoe

McGraw-Hill Book Company—John S. Crossman

C. V. Mosby Company—Howard F. Frye, George P. Oberst

Ortho Pharmaceutical Corporation—John H. Meyer, F. W. Schiller

W. B. Saunders Company—John L. Dusseau, James B. Finn

Williams and Wilkins Company—Charles O. Reville Jr., V. Robert Edwards

Year Book Publishers, Inc.—Fred A. Rogers, A. M. Greene

Editorials and Comments

Should MEND Be Permitted To Die?

FOR MANY YEARS the Army maintained ROTC units in many of our medical schools with the express purpose of familiarizing our medical students with the special problems, customs and regulations of military medicine. The curriculum for these medical ROTC courses apparently was determined more by the Army's personnel department than by its medical department, and as a result medical students came to regard the course as repetitious of what they had already learned in their college ROTC work about customs and regulations, and very little related to the phases of military medicine about which they were totally ignorant but wanted most to learn.

Was it surprising then that at the end of the medical ROTC course comparatively few medical students showed an interest either in taking up military medicine as a career or even applying for a commission in the Medical Reserve Corps? As a result, the Army has recently given up the medical ROTC as an unsuccessful means of stimulating either interest or recruitment for military medicine.

Since there is no national academy for the training of military physicians and surgeons comparable to the academies for the training of line officers for the Army, Navy and Air Force, it is obvious that some device must be developed in our medical schools to acquaint all physicians in training with at least the rudiments of military medicine since practically all of them will be required to serve. Many of the medical school deans, who have shown little interest in the now abandoned medical ROTC courses that stressed military customs and regulations, are thoroughly convinced that a program of a different type is badly needed. Such a program should do two things which are absolutely essential and which the old medical ROTC program did not do, (1) keep our medical college teachers in as close touch with developments in atomic warfare, chemical warfare, bacteriological warfare and new weapons as security regulations permit; (2) help our medical college teachers to integrate as much of all these new developments into the regular four-year medical curriculum as possible.

If it is sensible to provide cancer teaching coordinators at federal expense in our medical schools to help assure that cancer teaching is properly integrated throughout the four years of medical school, it certainly would seem equally sensible to provide teaching coordinators for military medicine.

Five medical colleges have been trying out the efficacy of a plan for

over a year.* This plan provides: (1) orientation of medical college teachers and coordinators in important problems of military medicine; (2) integration of new and important findings in atomic warfare, chemical warfare, bacteriological warfare and new weapons in the four-year undergraduate medical curriculum, with a coordinator for military medicine assisting and guiding in the integration. The five pilot medical schools are enthusiastic about the results of the MEND program and feel it may well be the real answer to the problem of keeping medical education in step with the rapid developments in military medicine. The cost for the coordinator is only about $15,000 a year per school, but to this must be added the rather considerable cost of the orientation of instructors by the Armed Forces.

Many medical schools had expressed an interest in MEND and money was available for adding a limited number of schools to the pilot group this year. The Office of Defense, however, has made it very clear that this is the last year it is planning to give financial support to schools to help them "do what they ought to be doing anyway." If the Office of Defense does not feel this program is worth the limited amount it takes to support it, there is obviously no use attempting to go ahead with it. Even if the Office of Civil Defense or the Department of Health, Education and Welfare should provide funds for the coordinators, the plan would lack the essential ingredient—the annual orientation of medical teachers by specialists of the Armed Forces.

The Army tried to reach the medical students through the Army-devised medical ROTC program and it failed. The Armed Forces are now invited to bring their important developments to medical students through a medical school-devised MEND program that costs less than the medical ROTC program did. Only the Armed Forces have the classified material, the instructors and the facilities to provide the basic orientation and instruction of medical college teachers and coordinators. This cannot be effectively delegated to any other agency of the government.

The medical schools have made what they consider to be a practical and economical suggestion for seeing that each medical student is basically prepared to play his part in case of national emergency. If the Office of Defense rejects the suggestion, it can only be concluded that it feels that it is not really important that medical students be informed concerning the recent developments in modern war and modern military medicine. That such a conclusion will be permitted to be the final one is indeed incredible—D.F.S.

---

*Olson, Stanley W.: "Medical Education for National Defense," *Journ. Med. Educ., Vol.* 29, No. 1, January 1954.

The National Fund and the AMEF Report Progress

RECENT REPORTS OF the National Fund for Medical Education[1] and the American Medical Education Foundation[2] are very encouraging indeed and present strong evidence that business corporations and the phy-

sicians of the country are becoming rapidly cognizant of medical education's financial needs and are willing to do something about it.

The 1954 grant of funds to medical schools from the two organizations was $2,176,904.71. Of these funds, business corporations contributed $1,075,326.40 through the fund's Committee of American Industry, headed by Colby M. Chester of the General Foods Corporation. The balance was contributed by physicians through the American Medical Education Foundation.

Though the total falls far short of meeting the annual needs of the schools, there are many encouraging signs in the reports. The total funds distributed since these organizations were founded in 1951 sum up to $6,941,056.71; grants were nearly a quarter-million dollars greater this year than in 1953; the number of contributors to the AMEF increased from 7,259 in 1952 to 18,176 in 1953; 29,132 medical alumni contributed directly to their respective medical schools $1,369,137.72 in 1953, quite apart from any gifts made through the AMEF.

S. Sloan Colt, president of the Bankers Trust Company of New York and president of the National Fund for Medical Education, sums up the report for the fund in the following words: "These grants are encouraging evidence of a growing partnership between medicine and industry—evidence of an increasing recognition on the part of progressive management that the medical schools are the very foundation of all the nation's health services. Our industrial productivity, national security, even our capability for world leadership—all rest in part on the high teaching standards of these schools. Upon them depends our increasing gains in public health and industrial medicine, the work of the voluntary health agencies, the promise of new discoveries in antibiotics, psychiatry, biochemistry and nuclear physics."

The medical schools are extremely fortunate to have men of Mr. Colt's type interested in and working so hard for a solution of their vexing financial problems.—D.F.S.

1. Colt, S. Sloan: "Fund Grants of $12,176,904 Aid to 80 Medical Schools," *Medical Advance*, New York, Vol. 2, No. 5, July-August 1954.
2. "Annual Report," American Medical Education Foundation, American Medical Association, Chicago, 1953.

Will the 1954 Meeting of the Association Be Its 65th or Its 72nd?

IN A BROCHURE entitled, "The Association of American Medical Colleges, History of Its Organization," printed in Detroit by the Free Press Book and Job Printing House in 1877, it is stated that, "A convention of representatives of numerous medical colleges of the United States was held in the hall of the Jefferson Medical College of Philadelphia, June 2 and 3, 1876." The call for the meeting was dated May 15, 1876, and was signed by J. B. Biddle, M.D., of Jefferson Medical College; William H. Mussey, M.D., of Miami Medical College; John T. Hodgen, M.D. of St. Louis Medical College; J. Adams Allen, M.D. of Rush Medical College;

W. T. Briggs, M.D. of the medical department, University of Nashville and J. M. Bodine, M.D., medical department, University of Louisville. Present at that organization meeting were representatives of 22 medical colleges.

The next meeting was recorded under the title "Proceedings of the Provisional Association of American Medical Colleges." It was held at the Palmer House, Chicago, June 2-4, 1877. Present at this meeting were representatives of 26 medical colleges. At this meeting a Constitution, By-Laws and Articles of Confederation were adopted and the official name changed to the "American Medical College Association."

In the files of the Association are the proceedings of the Annual Meetings of the American Medical College Association, held in Buffalo, June 3, 1878; in Atlanta, May 4 and 5, 1879; in New York, May 31 and June 1, 1880; in Richmond, May 2-4, 1881, and in Cincinnati, May 16, 1882.

At the 1880 meeting the Association approved a report written by Prof. N. S. Davis of Chicago Medical College and Prof. S. D. Gross of Jefferson Medical College, which stated as follows: "The minimum length of time required for gaining an adequate knowledge of medicine should be not less than three years; and at least one-half of each of those years should be spent in a proper medical college and this makes it necessary that the medical colleges, to be capable of performing their functions properly, should extend their annual term of active and obligatory instruction to six months of each year."

At the 1881 meeting a report signed by Leartus Connor, M.D., secretary of the Association; J. M. Bodine, of the medical department of the University of Louisville and Prof. E. S. Dunster, medical department of Michigan University, the following statement was made:

"It is proper to add that in all the essential elements of a medical college, a very considerable number of colleges (22) surpass the requirements of the Association.

"These require one or more of the following desiderata of the best medical college, viz: nine months yearly attendance; preliminary examination; three terms instead of two; real clinical work under the personal direction of a sufficient number of competent teachers.

"Thus there are 16 of 64 colleges behind the requirements of our Association and 22 ahead of them in one or more points mentioned above."

At the 1882 meeting representatives of only 11 member colleges were present. W. W. Seely, president of the Medical College of Ohio, summarized the situation in these words:

"It will be seen that all of the Eastern schools have withdrawn from the Association. The relations of this withdrawal to the efforts made by the Western colleges to increase the requirements for graduation are a matter of history, well remembered by all who have taken an interest in this effort to better the state of medical education.

"It is hoped that the condition of things which has compelled the return of the Association to its former requirement may prove but temporary, and that all reputable colleges who recognize the fitness of a yearly friendly conference between the several medical colleges and the advantages of combined efforts by the same, will join the Association and help forward its work."

Dr. Seely's hopes were in vain, however. For seven long years (1883-

4-5-6-7-8-9) there were no meetings of the Association held and so far as our records go, the Association ceased to exist.

On March 20, 1890, A. Friedenwald, M.D. and Eugene F. Cordell, M.D., on behalf of the Baltimore medical schools, issued an "appeal to the medical schools of the United States for their cooperation in inaugurating a *national advance*," and an invitation "to join with us in holding a conference for the full consideration of 'Medical Education in this Country and Measures for its Improvement'—at Nashville, Tenn., on the 21st of May, 1890."

This meeting was well attended and resulted in the formation of "an association to be known as the Association of American Medical Colleges." The officers elected were N. S. Davis, M.D., of Chicago Medical College, president, and Perry H. Millard, M.D., of St. Paul, Minn., secretary-treasurer. Appointed as a Committee on Constitution and By-Laws were Perry H. Millard, William Osler of Baltimore, and Samuel Logan of New Orleans.

Since the 1890 meeting there has been no year without an annual meeting of the Association.

Will the 1954 meeting of the Association be its 65th or its 72nd meeting? In my opinion it will be its 72nd meeting.—D. F. S.

NEWS DIGEST

International Language

A new international language, known as Interlingua, was used at the second World Congress of Cardiology, which was held with a combined meeting of the 27th Scientific Sessions of the American Heart Association in Washington, September 12-17.

The language is a combination of the common elements of the Western languages now in use, principally Spanish, French, Italian and Portugese. Interlingua differs from Esperanto in that it is not an artificial invention. Abstracts in this new language are now being used by many scientific journals, two of which, *Scientia International* and *Spectroscopia Molecular*, are published entirely in Interlingua.

Military Surgeons Convention

The 61st annual convention of the Association of Military Surgeons of the United States will be held November 29-December 1, 1954, at the Hotel Statler, Washington, D. C.

Highlight of the convention will be the Honors Night dinner on December 1, at which the Sir Henry Wellcome Medal and Prize, the Gorgas Medal, the Stitt Award, the McLester Award, the Louis Livingston Seaman Prize and the Founder's Medal will be presented.

Van Meter Prize Award

The American Goiter Association is again offering the Van Meter Prize Award of $300 and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the association's annual meeting, which will be held in Oklahoma City, Okla., April 28-30, 1955.

The competing essays may cover either clinical or research investigations, should not exceed 3,000 words and must be in English. A typewritten double space copy in duplicate should be sent to Dr. John C. McClintock, 149½ Washington Ave., Albany, N. Y., not later than January 15, 1955.

Alien Physicians

The number of alien physicians on U. S. hospital staffs has more than doubled in the last three years, according to a report published by the American Medical Association.

During the 1953-54 school year, 5,589 foreign physicians held appointments as interns, residents or fellows on house staffs of the 800 civilian hospitals approved for such training by the Department of State. Three years before the total was 2,072.

These aliens cut the number of vacancies in those hospitals down to 20 per cent for residents and 30 per cent for interns. The report states that without them the percentages would have been "considerably greater, since many young physicians who would normally be taking postgraduate work are on active military duty." Aliens made up 22 per cent of the total house staffs in the approved hospitals.

Largely because of state licensing laws, more than two-thirds of these foreign doctors were located in five states, New York, Ohio, New Jersey, Illinois and Massachusetts. In New Jersey, 65 per cent of the house staff positions were filled by aliens.

The report was prepared by Dr. Harold S. Diehl, Dr. Edwin L. Crosby and Paul K. Kaetzel. Mr. Kaetzel is with the Health Resources Advisory Committee of the Office of Defense Mobilization.

Lederle Medical Faculty Awards

The Lederle Laboratories Division of the American Cyanamid Company has announced the second year of the Lederle Medical Faculty Awards, to "aid in the support of promising teachers and investigators for a limited period in the hope and expectation that the medical schools which have appointed them, or some other schools, "will provide future support."

The awards are made for a term of not more than three years, and the total amount is not to exceed $10,000 a year. An independent committee composed of professors representing most of the preclinical sciences and drawn from medical schools throughout the United States will administer the awards, which will be made directly to a designated medical school in the United States or Canada.

Nominations for the Lederle Medical Faculty Awards should be submitted to the committee through the office of the dean of the medical school, and should be endorsed by him. Only one candidate from each school will be considered in any given year. Nominations should be submitted by February 1, 1955. For further information, write to Lederle Medical Faculty Awards, Office of the Secretary, Pearl River, N. Y.

Muscular Dystrophy Conference

The third medical conference of the Muscular Dystrophy Associations of America, Inc., will be held October 8-9 at the New Yorker Hotel. Six symposiums have been scheduled, which review the major research aspects of progressive muscular dystrophy. Problems of clinical management will also be discussed.

Children Society Convention

The 31st convention of the National Society for Crippled Children and Adults will be held November 2-5, at Boston's Statler Hotel. The theme of the convention, "Rehabilitation for Independence," will highlight the Easter Seal society's main objective.

Sen. John F. Kennedy of Massachusetts will give the keynote address on "Rehabilitation, Your Job and Mine." Other speakers will include Mrs. Ivy Baker Priest, treasurer of the United States and a board member of the District of Columbia Society for Crippled Children; Dr. Margaret Mead, anthropologist and associate curator of ethnology, American Museum of Natural History; and Dr. Howard A. Rush, director of the Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center.

In common with past society conventions, the panel of handicapped persons who have followed outstanding careers despite their handicaps will again be a feature of this year's meeting. The panel will include Clifford Barbour, D.D., president of the Western Theological Seminary, Pittsburgh, Pa., and John Leslie, administrative vice president of Pan American World Airways.

International Surgeons Meeting

The high point of the 19th annual congress of the United States and Canadian Sections of the International College of Surgeons in Chicago September 6-10, was the dedication of the college's Surgical Hall of Fame and Museum of Surgical History.

The hall of fame, the purpose of which is to perpetuate the memory of great surgeons, will be housed in a renovated mansion, and will include a hall of immortals, areas for each participating national chapter and a complete library of rare books and manuscripts, surgical instruments and other historical material.

A college of electors has been named to pass on the candidates for admission into the hall of fame. Dr. Rudolf Nissen of Switzerland is chairman and Dr. Morris Fishbein is co-chairman. Candidates must be dead at least 15 years before being eligible, and race, religion or na-

tionality will not be considerations.

The new officers of the college are Dr. Arnold S. Jackson, Madison, Wis., president of the United States section, and Dr. Curtice Rosser, Dallas, Texas, president-elect. Vice presidents are Dr. W. W. Babcock, Philadelphia; Dr. Alexander Brunschwig, New York; Dr. Arthur Steindler, Iowa City; Dr. Horace E. Ayers, of New York; Dr. Edward L. Compere, Chicago; Dr. David B. Allman, Atlantic City, N. J.; Dr. Moses A. Behrend, Philadelphia, and Dr. Neal Owens, New Orleans.

Dr. Oscar B. Nugent and Dr. Karl B. Meyer, both of Chicago, were re-elected treasurer and secretary, respectively.

Japan Medical Association

A special world exhibition in medical sciences will be featured at the 14th Congress of the Japan Medical Association, to be held from April 1-5, 1955, at Kyoto, Japan.

The association is hoping to receive photographs and exhibits from many other countries to be displayed as a survey of the current status of world medicine and "the humanistic spirit." Further information on the type of material sought may be obtained from Dr. H. Yamada, director of the exhibition department, department of pharmacology, Faculty of Medicine, Kyoto University, Kyoto, Japan.

AHA Convention

Keynote speaker at the opening session of the 56th American Hospital. Association convention in Chicago, September 13-16, was Sen. Lister Hill (D., Ala.), co-sponsor of the Hospital Survey and Construction Act. Speaking on "Meeting Public Needs," Senator Hill said that although rejection of men for the Armed Forces has painted "an appalling picture," it does not necessarily mean that "big government" is the answer to the nation's health needs. The senator emphasized his belief that "the way to avoid the evils of socialized medicine is to make sure that the voluntary prepayment system can do the job."

Other featured addresses included a report on trends in public opinion by Dilman M. K. Smith, vice president, Opinion Research Corp., and a discussion of "Individual Responsibility — The Keystone of the Voluntary Way," by Dr. Alan Gregg, vice president of the Rockefeller Foundation.

Dr. Frank R. Bradley, director of Barnes Hospital, St. Louis, was installed as president of the association at the convention banquet on September 16. Other officers are Ray E. Brown, superintendent of the University of Chicago Clinics and director of the university's hospital administration program, president-elect; and John N. Hatfield, director of Passavant Memorial Hospital, Chicago, re-elected treasurer.

George Bugbee, president of the Health Information Foundation, New York, and former executive director of the AHA, was presented with the annual Award of Merit, in recognition of his 11 years' service to the association.

About 11,000 persons attended the convention, compared with 7,341 in 1953. The 1955 convention will be held at Atlantic City, N. J., September 19-22.

American Trudeau Society

The American Trudeau Society will hold an interim scientific session at the Hotel New Yorker on November 17, 1954. The meeting will be open to physicians interested in pulmonary diseases in internal medicine, surgery and pediatrics, and to scientists in allied laboratory disciplines.

The program will consist of a series of presentations on various aspects of pulmonary diseases from the clinical and laboratory standpoints.

The society is offering a limited number of resident fellowships to promote the training of clinicians, medical teachers and administrators in the field of tuberculosis and related pulmonary diseases. Awards are open to citizens of the United States who hold M.D. degrees, and preference will be given to those not more

than 30 years of age. Fellowship applications must be received by February 1, 1955. For further information contact the Director of Medical Education, American Trudeau Society, c/o The Henry Phipps Institute, Seventh and Lombard Sts., Philadelphia 47, Pa.

Grants for Cancer Scholars

The American Cancer Society has announced a limited number of scholar grants in cancer research, designed to "bridge the gap between the completion of fellowship training and the period when the scientist has thoroughly demonstrated his competence as an independent investigator."

The three-year, $6,000 per annum grants are awarded on the recommendation of the Committee of Growth of the National Academy of Sciences—National Research Council, with the hope that they will stimulate careers in cancer research. Candidates should be citizens of the United States or have demonstrated an intent to make a career in the United States.

Application forms may be obtained from the Committee on Growth, National Research Council, 2101 Constitution Ave., N.W., Washington 25, D. C.

Record Ratio of Doctors

The American Medical Association's 54th annual report on medical education in the United States reveals that a record ratio of one doctor for every 730 persons has been achieved in America during the past year. The survey shows that the graduation of 6,861 doctors during 1953-54, the largest number in history, raises the nation's physician population to 220,100.

With 28,227 students enrolled in the nation's medical schools, and the percentage of student withdrawals for failure or other reasons down from 9.5 per cent 15 years ago to 5.1 per cent, Dr. George F. Lull, secretary and general manager of the AMA, said the report shows "significant strides in bringing better medical care to the nation."

This survey also called attention to the fact that 10 new four-year medical schools are in the construction or planning stage, and will be in operation within the next five or six years. They will be at the universities of California, Mississippi, Miami, Missouri, Florida, Kentucky, West Virginia, North Dakota, Yeshiva University of New York and Seton Hall University.

The report was prepared by Dr. Edward L. Turner, secretary of the AMA's Council on Medical Education and Hospitals, Dr. Walter S. Wiggins, Dr. Douglas D. Vollan and Mrs. Anne Tipner, all members of the council staff.

College Briefs

California

Dr. JOHN B. LAGEN has been appointed acting dean of the school of medicine at San Francisco. He replaces Dr. FRANCIS SCOTT SMYTH, who has retired from the deanship.

A three-year contract has been announced between the university and the Foreign Operations Administration to cooperate with the University of Indonesia in the training of medical educators and doctors. The F.O.A. is providing $692,000 for the program, which will be under the direction of Dr. Smyth. Dr. SOEDJANO D. POESPONEGORO, dean of the medical faculty of the University of Indonesia, has arrived in the United States for consultations on the program, which will provide for exchange of medical personnel between the two schools.

Albany

Dr. FRANK M. WOOLSEY JR., chief of medical services at the Albany Veterans Administration Hospital and associate professor of medicine at the college, has been appointed associate dean and director of postgraduate medical education.

Dr. Woolsey will take over the work of Dr. CURTLAND C. BROWN JR., assistant dean of the college, who has been inducted into the Navy as a medical officer. His additional duties will make him a full-time administrative assistant to Dr. HAROLD C. WIGGERS, dean of the college.

For the second consecutive year, the medical college has received a grant of $15,000 from the National Institute of Neurological Diseases and Blindness of the Public Health Service. The grant will assist in a program to provide increased graduate and undergraduate training facilities in non-federal institutions for physicians desiring academic careers in neurology. Dr. ROBERT W. GRAVES, professor of neurology and chairman of the department, will administer the program.

Dr. JOHN J. FARRELL, formerly assistant professor of surgery, has been appointed professor of surgery and chairman of the department at the University of Miami School of Medicine. Dr. Farrell will also be affiliated with the Jackson Memorial Hospital in Coral Gables, Fla.

"Medically Speaking," a new series of 13 television programs, will be presented over a local station, sponsored by the Mohawk-Hudson Council on Educational Television, and directed by Angela McDermott. HAROLD E. HAMMOND, public relations director of the college, will coordinate the programs. The series will be directed toward a housewife audience and will be concerned with family health and welfare problems.

Chicago Medical

Dr. AARON E. KANTER has been appointed professor and chairman of the department of gynecology and obstetrics at the medical school. Dr. Kanter is a past president of the Chicago Gynecological Society.

Columbia

A conference, designed to celebrate the bicentennial of the university and the 125th anniversary of the founding of the school of pharmacy, will be held on October 14-15, in New York. The sessions will be devoted to a review of the present status of research and treatment of critical diseases and a forecast of future research, and will be open to the public as well as to members of the health professions.

Cornell

Dr. THOMAS P. ALMY has been named director of the Cornell (Second) Division at the Bellevue Hospital Center. He succeeds Dr. E. HUGH LUCKEY, who became dean of the Cornell University Medical College on July 1. The Cornell division maintains general medical and surgical services at Bellevue, as well as others devoted to urology, neurology and neurosurgery.

Creighton

Dr. WILLIAM NIEMER, associate professor of neuroanatomy, has been appointed audiovisual coordinator for the medical school. Dr. ALFRED BRODY has been named head of the pharmacology division of the combined departments of physiology and pharmacology.

Emory

Dr. RUSSELL H. OPPENHEIMER, for the past 33 years associated with the school of medicine, has retired as professor of medicine and director of postgraduate education, effective August 31. He was dean of the medical school from 1925 to 1945, and with the exception of a period of service in World War I, has been connected with Emory University since his

graduation from the University of Michigan Medical School in 1917.

Georgetown

Ground has been broken for the new $1,350,000 building of the school of nursing. The building is the first to be erected under the Greater Georgetown Fund, the university's 10-year, $14 million development program. Facilities will include dormitory accommodations for 250 women students, a library, dining room, auditorium, administrative offices, student advisers' offices and a lounge.

The medical center announced the receipt of $109,885 in research grants. Seven of the eight individual grants reported were from the Public Health Service and totaled $106,537.

Dr. CHARLES D. SHIELDS has been appointed professor and chairman of the department of physical medicine and rehabilitation at the school of medicine.

Dr. DESMOND S. O'DOHERTY has been named director of the muscular dystrophy clinic at the University Hospital. The clinic is supported by the Washington chapter of the Muscular Dystrophy Association.

George Washington

The Public Health Service has granted $12,573 to scientists at the university for cancer research. They will investigate the possibility that the bacteria associated with ulcerative cancers may contribute to the spread of those cancers within the body.

Joint investigators will be Dr. CALVIN T. KLOPP, director of the university cancer clinic, and Dr. ANGUS M. GRIFFIN, professor of bacteriology. To assist them, Dr. RUDOLPH HUGH, formerly director of laboratories at the Evanston, Ill., department of health, has been appointed assistant research professor of bacteriology at the university.

Harvard

A five-year grant of $275,000 has been received from the Rockefeller Foundation for the purpose of integrating the teaching of comprehensive medical care into the medical school curriculum.

In this study in medical education, Harvard medical students will be assigned to families living in the vicinity of, and now receiving medical care from, the Massachusetts General Hospital and related community agencies.

The program is to be directed for the Harvard Medical School by a policy committee, headed by Dr. DAVID D. RUTSTEIN, professor of preventive medicine and associate physician, Massachusetts General Hospital. Dr. JOSEPH STOKES III, instructor in preventive medicine at the medical school and clinical assistant in medicine at the hospital, will head the program staff. The chief objective of the study will be to develop methods for the instruction of medical students in complete medical care.

Jefferson

A grant of $11,512 has been received from the Public Health Service for investigation of the mechanics of the diabetogenic effect of adrenal cortex. Dr. FRANZ X. HAUSBERGER, assistant professor of anatomy, will be in charge of the study.

Dr. OWEN S. GIBBS has been appointed visiting research professor and will engage in both teaching and research.

Indiana

Dr. MAX W. BIGGS has been appointed to conduct research in cancer and allied fields. He also will teach medical students, residents, fellows and postgraduates in specialty fields. Dr. Biggs was formerly with the University of California's Donner Laboratory and the department of medical physics. The research which Dr. Biggs will conduct is sponsored by the Indiana Cancer Society and the Stewart Trust Foundation of Washington, D. C.

Stritch-Loyola

Dr. WALTER CLARK RANDALL has accepted the chairmanship of the department of physiology in the school

of medicine. Dr. Randall will fill the vacancy caused by the death of Dr. ARTHUR G. MULDER on August 13, 1953.

Medical Evangelists

The college has received $33,643 from the National Fund for Medical Education. This is the fourth annual contribution, and the largest received to date.

Dr. U. D. REGISTER, assistant professor of biochemistry, has been awarded a $24,300 grant from the Public Health Service for a three-year study on factors influencing the distribution and concentration of non-protein sulphydril compounds in the tissues of the rat.

A new speech and hearing clinic has been opened on the Los Angeles campus, as part of the White Memorial Clinic. Designed to provide treatment for all types of speech disorders, this service will be under the direction of speech pathologist Dr. CHARLES D. SHOPWIN.

Missouri

Dr. ELMER ELLIS, dean of the college of arts and science, has been appointed acting president of the university, effective September 10, to next June 30. Dr. Ellis replaces Dr. FREDERICK A. MIDDLEBUSH, who retired last June 30.

Nebraska

Dr. ROY GROVES HOLLY has been named professor of obstetrics and gynecology. He was formerly attending physician at Minneapolis General Hospital and associate professor of obstetrics and gynecology at University Hospital in Minneapolis.

Dr. GORDON EVERETT GIBBS has been appointed associate professor of pediatrics. He was associate professor of pediatrics at the University of Maryland School of Medicine.

Dr. JOHN R. SCHENKEN has been named chairman of the department of pathology. He is president of the American Society of Clinical Pathologists and of the International Congress of Clinical Pathologists.

The new assistant dean of the college of medicine is Dr. JAMES W. BENJAMIN. Dr. Benjamin was formerly assistant dean and professor of anatomy at the New York University School of Medicine.

N. Y. Medical College

Dr. RALPH E. SNYDER, who has been executive dean of the college since June, 1953, has been named dean of the college.

The newly created department of physiology will be headed by Dr. CHARLES HAIG, who has been appointed professor and director. Dr. DAVID LEHR has been named professor and director of the new department of pharmacology.

Construction has been started on a $1,500,000 addition to the college building. The new building will be ready for occupancy in the fall, and will house student laboratories, faculty offices and research laboratories.

The college has recently been presented with a grant of $72,000 from the United Cerebral Palsy Association of New York City for the establishment of a rehabilitation and training center. The center will be under the direction of Dr. JEROME S. TOBIS, professor and director of the department of physical medicine and rehabilitation. This service will be located at the Bird S. Coler Hospital and will be operated in cooperation with the department of hospitals and the department of health of New York State.

Northwestern

Dr. RONALD R. GREENE has been named professor of obstetrics and gynecology; Dr. ROBERT E. STONE has been appointed professor of nutrition and metabolism, and Dr. WILLIS J. POTTS has been advanced to professor of surgery. Dr. Greene will occupy the newly established Anna Ross Lapham professorship.

Ohio

When Dr. WILLIAM F. ASHE returns from his six-week study of workers' illness in India, he will assume his new duties as professor and chairman

THE MARTHA TRACY MEMORIAL wing at the Woman's Medical College of Pennsylvania is shown above. The new wing opened early this year and houses the department of preventive medicine.

of the department of preventive medicine.

Dr. JOHN C. ULLREY will become professor and chairman of the department of obstetrics and gynecology. He was formerly at Jefferson Medical School and a member of the faculty of the graduate school of the University of Pennsylvania.

A loan fund of $10,000 has been established for senior medical students and residents in the fields of psychiatry, neurosurgery and neurology in honor of Dr. CULLEN W. IRISH, a 1915 graduate of the college of medicine. The money will come from the Electric Auto-Lite Co. of Toledo, as a result of a drawing won by Mrs. DESSE L. IRISH, Dr. Irish's daughter-in-law.

Dr. ELIJAH J. GORDON, Dr. FRANK A. HARTMAN and Dr. GEORGE M. CURTIS were named emeritus professors upon their recent retirement.

Oregon

A grant of $27,000 has been received from the National Science Foundation, to be utilized by Dr. HOWARD S. MASON in a study of the biochemistry of natural elements.

Pennsylvania

Three chairmanship appointments have been announced. Dr. DALE REX COMAN has been named chairman of the department of pathology, Dr. SAMUEL GURIN, chairman of physiological chemistry, and Dr. WILLIAM J. ERDMAN, chairman of physical medicine and rehabilitation.

Pittsburgh

Dr. A. E. AXELROD has been advanced to professor of biochemistry. Dr. Axelrod was formerly associate professor of biochemistry at the Institute of Pathology, Western Reserve University Medical School.

Saint Louis

A physiologist from the University of Glasgow, Dr. IAIN D. FERGUSON, will join the faculty of the school of medicine as assistant professor of physiology.

Tennessee

Dr. RUDOLPH D. VON CAPELLER, from Riehen, Switzerland, has joined the division of pharmacology on a one-year appointment. He will do teaching and research in the field of hypertension.

The C. P. J. Mooney Memorial Library building will be remodeled, at an estimated cost of $50,000 and a floor, costing approximately $200,000, will be added to the pharmacy building.

Texas, Galveston

After 30 years as professor of obstetrics and gynecology and chairman of the department, Dr. WILLARD R. COOKE has asked to be relieved of administrative responsibilities so that he may devote himself fully to teaching, research and hospital practice. On Dr. Cooke's recommendation, Dr. GARTH L. JARVIS has accepted responsibility as chairman of the department. Dr. Cooke plans special research in gynecological aspects of cancer.

Vermont

The new director of health studies at the college of medicine is Dr. LEON R. LEZER, who will serve as assistant professor of preventive medicine. He will develop a teaching program within the college, adapting the "concept of environmental medicine to the medical and paramedical facilities in the state."

U. of Washington

Dr. GEORGE NELSON AAGAARD, dean of Southwestern Medical School at the University of Texas since 1952, was appointed dean of the school of medicine. Dr. Aagaard replaces Dr. EDWARD L. TURNER, who resigned last year to become secretary of the Council of Medical Education and Hospitals of the American Medical Association.

Wisconsin

The retirement of Dr. FREDERICK ALLISON DAVIS as chairman of the subsection on ophthalmology has been announced. Dr. Davis has been named professor emeritus.

Dr. ARTHUR L. TATUM has retired as chairman of the department of pharmacology, and also has been named professor emeritus.

Yale

Dr. FREDERICK C. REDLICH, professor and chairman of the department of psychiatry, left recently for Europe and Israel on an inspection trip of psychiatric research in progress there. Dr. Redlich will visit psychiatric institutions in Spain, Italy, Austria, Germany, Switzerland, Holland, Great Britain and Israel. As a consultant to the U. S. Army, he also will visit military installations in Germany and Austria.

Dr. Redlich's trip will be under the auspices of the Social Research Foundation and the foundation's fund for research psychiatry.

Audiovisual News

Film Material for Teaching Medical History

Robert W. Prichard

Teachers of medical history are confronted with a wide variety of film sources, any one of them liable to contain material applicable to the teaching of their subject. In a sense, there is a kernel of historical material in a large proportion of the medical motion pictures available.

However, projection material suited in a direct way to the teaching of this discipline is hard to uncover in various public sources. The list appearing below is the result of inquiries among many organizations, and developed by contact with many people interested in the subject.

It is undoubtedly incomplete, and the compiler knows of several titles which he was unable to trace in any of the sources at his disposal. It is hoped that individuals knowing of such material will communicate with the Medical Audio-Visual Institute.

Advent of Anesthesia

9 min., sd., b&w., 16mm.

A reenactment of the first anesthetic given at Massachusetts General Hospital, Boston.

Mallinckrodt Chemical Works, 72 Gold St., New York 8, N. Y. **Loan.**

A Century of Progress—Medicine

31 fr., si., b&w., 35mm., f.s.

Covers the work of Pasteur, Koch, Roentgen, the Curies and others. The strip is captioned and accompanied by lecture notes.

British Information Services, 30 Rockefeller Plaza, New York 20, N. Y. **Sale only: $3.**

Dr. Prichard is assistant professor of pathology, in charge of hematology and blood bank at Bowman Gray School of Medicine.

Ether for Anesthesia

21 min., sd., b&w., 16mm.

The history of contrasting methods of making ether from 1540 to present.

Mallinckrodt Chemical Works, 72 Gold St., New York 8, N. Y. **Loan.**

Freud, Sigmund—Family and Friends

45 min., si., b&w., 16mm.

Made in Vienna 1929, Berlin 1925, and Paris 1929. Dr. Lehrmann has used it in person, and is considering copies with his recorded commentary.

Philip R. Lehrmann, M.D., 25 Central Park West, New York, N. Y. (arrange with Dr. Lehrmann). **Loan.**

Images Medievales

18 min., sd., color, 16mm.

Life in the Middle Ages as recorded in detailed miniatures in illuminated manuscripts. Some content is medical, but it mainly depicts life in general. The musical background is medieval.

Film Images, Inc., 18 East 60th St., New York 19, N. Y. **Rental: $20.**

Louis Pasteur—Man of Science

33 min., sd., b&w., 16mm.

Produced in France, with English narration. A biographic documentary, well photographed.

Institutional Cinema Service, 1560 Broadway, New York 19, N. Y. **Rental: $4.95.**

Medical History in Clinical Teaching

30 min., si., b&w., 16mm.

Actually a history of physical diagnosis, from Hippocrates to Mackenzie and the ECG, in costume.

Library of College of Physicians of Philadelphia, 19 South 22nd St., Philadelphia 3, Pa. **Rental: $2.**

Medical Motion Picture—Development and Present Application

30 min., sd., color, 16mm.

Historical development including first 16mm. surgical film. Reviewed in *J.A.M.A.* July 3, 1948, p. 903.

Committee on Medical Motion Pictures, American Medical Association, 535 N. Dearborn St., Chicago 10, Ill. **Rental: $3.**

Salzer-Mettler Collection

226 slides, from above collection, si., b&w., 35mm.

Clay-Adams Company, Inc., 141 E. 25th St., New York 10, N. Y. **Sale Only:** $101.70 in cardboard mounts, $140.40 in glass mounts.

The Story of Dr. Jenner

10 min., sd., b&w., 16mm.

A dramatization of Jenner's work, one of the "Passing Parade" series of MGM studios.

Film Library, American Museum of Natural History, Central Park West at 79th St., New York 24, N. Y. **Rental:** $2.35.

They Live Again

11 min., sd., b&w., 16mm.

At lay level, a dramatization of the discovery of insulin, stressing experimentation.

Committee on Medical Motion Pictures, American Medical Association, 535 N. Dearborn St., Chicago 10, Ill. **Rental:** $1.

William Harvey and the Circulation of the Blood

48 min., si., b&w., 16mm.

Produced by the Royal College of Surgeons on the 300th anniversary of "De Motu Cordis." Detailed retracing of Harvey's experiments. Reviewed *Journ. of MED. EDUC.*, January 1954, p. 63.

Institute of the History of Medicine, Johns Hopkins University, 1900 E. Monument St., Baltimore 5, Md.

William Henry Welch

11 min., sd., b&w., 16mm.

Dr. Welch himself tells of his career in pathology and the early years at Hopkins.

Library, New York Academy of Medicine, 2 E. 103rd st., New York 29, N. Y. **Loan.**

Pressure Steam Sterilization

This is the third in a series of reports on materials circulated on the AV preview circuits for medical colleges. The following information is taken from the first 88 appraisal forms returned by the 76 medical colleges on the circuits.

A total of 283 faculty viewers and 1534 student viewers was reported on the appraisal forms as having seen the film, "Pressure Steam Sterilization" (See Journal of MEDICAL EDUCATION review, October 1953). The film was given the following overall ratings: poor 2, fair 11, good 40, excellent 30, no indication 5.

The appraisers considered that the film was best suited to the following audiences, in order of frequency of indication:

Medical students	43
Registered nurses	40
Medical technicians	25
Interns and residents	18
Nursing students	15
Others	19
No indication	8

The film was generally judged to be technically well produced. The following is a representative statement of this strength: "Extraordinarily good scenario, animation, photography and sound." However, there was some criticism of the sound on one hand and the type of graph used in the film on the other.

Content-wise the following are representative of the film's strengths: "The subject matter was sufficiently detailed for a clear understanding of the basic principles of steam sterilization as well as the correct use of an autoclave." "Bacteriology faculty considered it an excellent and instructive film hammering home several points made in lectures and in laboratory." "The reviewers feel this would be of greatest value after students had been instructed about processes of sterilization."

Others considered the film as being too technical: "Too much emphasis on the technical aspects of the structure," and "excessive time spent in demonstrating mechanics of turning autoclave on and off. Theory too short."

Thirty appraisers thought this film should be a part of their college library while 39 thought it to be a film they should borrow or rent from time to time.

Distribution: The American Sterilizer Co., Erie, Pa.; Sturgis-Grant Productions, Inc., 222 E. 44th St., New York 17, N. Y., and the Society of American Bacteriologists, Committee on Materials for Visual Instruction in Microbiology, department of bacteriology, University of Pennsylvania School of Medicine, Philadelphia 4, Pa., **Loan.**

Summaries of Film Reviews

Checking for Injuries

16 min., sd., b&w., 16mm., 1951.

In a classroom a hit-run auto accident is simulated and the key points in checking for injuries are made. The accident circumstances are examined to determine probabilities of injury. The spectators and victim are questioned for clues to injury and for an exact description of the accident. An overall estimate of the victim's condition is made under three headings: hurry cases, surface injuries, internal injuries. Shock and concussion are sketched. Physical examination at the roadside is demonstrated: for neck, extremity or multiple injuries. Carriage by stretcher is shown. The guideposts and checklist in ascertaining injuries are summarized.

This simple and lucid film methodically covers the principles of field examination of accident victims, stressing safeguards to the patient. The caution implicit in the film might even be amplified, for it is probably fair, in accidents of this type, to assume the presence of shock, cervical spine injury and rib fracture, since the consequences of bad handling are what they are. Organized as an illustrated lecture film with a classroom demonstration and charted words, nevertheless the production skills are excellent and the visual-verbal impact consistently good.

As the basis for, or integral part of, a class on first aid for the injured, this film admirably presents its material as a prelude to discussion or practice. For medical audiences the principles of triage are laid out in elementary fashion.—*D. S. R. and G. V. B. for MEND Program, February 1954.*

Audience: Lay students of first aid.

Reference: The American Red Cross First Aid Text Book.

Production Data: Sponsor: American Red Cross, Washington, D. C.; **Technical Supervision:** Carl J. Potthoff, M.D., national director, First Aid Service, American Red Cross; **Producer:** William J. Gans Co., New York, N. Y.

Distribution: Regional American Red Cross Offices, **Loan.**

Interatrial Septal Defects. Experimental Closure with Machine

11 min., sd. (magnetic), color, 16mm., 1953.

A mechanical heart with screen oxygenator and provision for extracorporeal blood circuits is seen. Cannulation of the femoral artery and of the venae cavae is briefly shown, followed by cannulation of the left ventricle. The bloodless atrium is opened. A previously prepared pedicle flap of pericardium is sutured across the experimental interatrial defect. The ventricular and vena caval cannulae are removed and absorbable sponge is placed over the lines of trauma. Five dogs who survived the procedure are shown moving about.

This report film of a surgical approach to repair of interatrial defects represents a visualization of the high points of the author's procedure. In this very active field of surgical research, the merits of this particular procedure, as executed by proficient personnel, will be judged by time and experience only. Productionally, the lack of adequate orientation plus the fragmentary visualization of the procedure itself make necessary the presence of knowledgeable cardiac surgeons as instructor-users.

For surgical seminars this film will be provocative of discussion and will clearly show the essential elements of the cardiac procedure, but not of the mechanical heart which permits the blood-free heart and the visualization of the septum. *D.S.R., April 1954.*

Audience: Surgeons, residents in surgery.

Reference: Miller, B. J.; Gibbon, John H. Jr.; Greco, V. F.; Smith, B. A.; Cohn, C. H.; and Albritten, F. F. The Production and Repair of Interatrial Septal Defects under Direct Vision with the Assistance of an Extra Corporeal Pump-Oxygenator Circuit. **Journ. Thoracic Surgery** (St. Louis), Vol. 26, No. 6, pp. 598-616, December 1953.

Production Data: Author: John H. Gibbon Jr., M.D., department of surgery, Jefferson Medical College of Philadelphia; **Camera:** James Magee.

Distribution: The author, Jefferson Medical College of Philadelphia, 1025 Walnut St., Philadelphia 7, Pa. **Loan.**

The Use of Gentran as a Plasma Volume Expander

17 min., color, sd., 16 mm., 1954.

A diagram of the circulatory system demonstrates the principal alterations of the blood pool. Blood loss as the prime indication for whole blood administration is sketched. Dextran is shown to be the plasma volume expander used most often. Its mode of production is outlined. A laboratory dog experiment shows the effect of Gentran (dextran 6 per cent w/v in saline) on hemorrhage. The metabolism and the merits of dextran are presented preceding a concluding summary in titles.

The film presents the current case for dextran (under the sponsor's trade name Gentran) as a tool for conserving whole blood and achieving plasma volume expansion where necessary. The film's facts are consistent with current research by

the Armed Forces and others concerned with blood substitutes.

Production-wise the film covers its ground but tends to confuse the viewer. There is dependence upon the sound track for the major part of the message, so that disassociation of word and picture are common, meaningless filler shots often occur, animation is unclear or depends upon words on the screen, and there is little visual continuity per se, regardless of the good photography and sound recording.

For those concerned with the use of plasma expanders, the film will provide a basis for a discussion which is not seriously disturbed by the use of a trade name preparation. As with all product promotional films, its presentation by one aware of the overall studies in plasma volume expanders is very desirable for optimum intellectual judgments by the audience. *D.S.R. and G.V.B., for MEND Program, May 1954.*

Audience: Practitioners, medical students, medical technicians, surgical nurses, blood bank and first aid personnel.

References: (1) Gropper, Arthur L.; Raiss, Lawrence G.; Amspacher, William H. Plasma Expanders. Surgery, gynecology and obstetrics section, **Int'l Abstracts of Surg.**, 95, 521-542, December 1952. (2) Amspacher, William H. and Curreri, Anthony R. Use of Dextran in Control of Shock Resulting from War Wounds. **Archives of Surgery**, 66, 730-740, June 1953.

Production Data: Sponsor: Baxter Laboratories, Inc. **Medical Cooperation:** The Evanston Hospital, Evanston, Ill. **Producer:** Mervin W. LaRue, Inc., Chicago, Ill.

Distribution: Baxter Laboratories, Inc., Morton Grove, Ill. **Loan** (available only in 37 Eastern States).

Transfusion Trends

25 min., sd., color, 16 mm., 1953.

The historical background for the vacuum bottle blood transfusion system is presented. The procedure in a blood bank, utilizing Baxter disposable equipment, is followed through step-by-step until the pint of blood, blood specimen tubes and identificational cards are completed. Administration of a blood transfusion by intern and nurse is shown step-by-step, only incidentally including the use of a blood pump. Plasma aspiration from outdated whole blood is demonstrated. Gentran as a surgical blood substitute is shown. A summary concludes the film.

This procedural film is a direct exposition of the methods for using the sponsor's present equipment in hospital tranfusion practice. Vacuum bottles

A few words about Protecting Medical and Surgical Films

Perhaps it's time the screening health of your MEDICAL and SURGICAL FILMS was checked.

Perhaps unprotected prints have accumulated scratches, smudges, oil and dirt which obscure fine details of surgical operations or medical treatments . . . and diminish audience attention.

Peerless rejuvenation *restores* overworked prints.

And the next time you order prints — remember to specify Peerless Treatment in your purchase order. It will guard your prints against damage and keep them in good condition longer.

PEERLESS
FILM PROCESSING CORPORATION
165 WEST 46th STREET, NEW YORK 36, N. Y.
959 SEWARD STREET, HOLLYWOOD 38, CALIF.

with disposable donor and recipient needle-tubing sets are standard equipment today, and several practical devices and methods are demonstrated. As a film this is a direct, well-made and visually instructive film which lacks only a better emphasis upon these unique and newer developments in transfusion methods which are shown, e.g., the vacuum-breaking chamber in the bottle, the blood pump and the tubing clamp.

For all concerned with transfusion methods, as advocated by the trade leader in this field, this film will provide a relatively standard procedure applicable to most needs but will also demonstrate some provocative new ideas. *D.S.R. and G.V.B., for MEND Program, May 1954.*

Audience: Practitioners, medical students, nurses, medical technicians.

Production Data: Sponsor: Baxter Laboratories, Inc. **Medical Cooperation:** Knickerbocker Blood Bank and St. Clare's Hospital, New York. **Producer:** Sturgis-Grant Productions, Inc., New York, N. Y.
Distribution: Baxter Laboratories, Inc., Morton Grove, Ill. **Loan** (available only in the 37 Eastern States).

Chemical Warfare Injuries. Prophylaxis and Therapy

four parts (29,57,44,28 fr.), color, si., F.S., 1943.

By means of human subjects, animal experiments and pathological specimens from both, Part I presents the effects of the lung irritants phosgene, chlorine and chlorpicrin; Part II shows the effects of vesicant mustard gas; Part III the vesicants lewisite and the nitrogen mustards and in Part IV the miscellaneous agents chloracetophenone, arsine and white phosphorus.

The gross pathology of the poison gases of warfare is apparently nowhere else available in collected pictures. Therefore, despite the inadequacies of color, lack of the detailed case data which would be optimally helpful to pathologist-instructors, and the problems of student orientation to the pathologies shown, the four filmstrips offer material which may be impossible to supply otherwise. Part II appears to be the most superior filmstrip in its overall aspects.

Utilization in whole or in part, or purchase of the filmstrips so that they may be cut up for slide material are three possibilities of use of these filmstrips in medical school.—*G.V.B., D.S.R. and G.J., for MEND Program, March 1954.*

Audience: Students of chemical warfare, medical students.

Production Data: Sponsor-Producer: U. S. Army.
Distribution: Director, Armed Forces Institute of Pathology, 7th & Independence Aves., S.W., Washington 25, D. C. **Loan** (use Code Nos. FS 8-65 to FS 8-68).

Homologous Heart Grafts

18 min., si., color, 16 mm., 1951.

Subject dogs are seen. The carotid artery of the blood donor is cannulated. The heart donor's vagus is cut, and after the chest plate has been removed, all blood vessels except innominate and subclavian arteries and venae cavae are tied and severed. The blood donor animal is connected to the donor heart before the heart and lungs are removed and the lungs excised; this method is called interim parabiotic perfusion. The free heart is transplanted under the neck skin of the recipient dog, suturing the pulmonary artery to the external jugular vein, and the innominate to the carotid. Physiological tests of the two-hearted dog are done. A second neck transplant heart and a heart transplanted to the aorta and venae cava in the abdomen are shown. With heart and lungs transplanted to the abdomen as an auxiliary blood pump, the recipient chest heart is emptied by pressure over the vena cavae to permit 15 minutes of blood-free surgery.

This film, which reports experimental heart (and lung) transplantations, is not only provocative in its broader implications regarding cardiovascular surgery but also provides a method for experimentation with and demonstrations of the reactions of the living denervated heart. The film is fragmentary, and put together in pieces which are difficult to understand because of poor orientation and poorly developed camera angles, but despite this is revealing and dramatic.

This is an author's film, a personal instrument in its current form. The high interest in this area of cardiovascular research, however, and the importance of this line of work suggests that the film would be valuable for surgical or physiological graduate seminars led by those familiar with the work in question. *D.S.R., March 1954.*

Audience: Students of cardiovascular research, cardiac surgeons, physiologists.

Reference: Marcus, Emanuel, M.D., Ph.D., Wong, Samuel N.T., M.D., and Luisada, Aldo A., M.D.: Homologous Heart Grafts. **A.M.A. Archives of Surgery,** February 1953, Vol. 66, pp. 179-191.

Production Data: Authors: Emanuel Marcus, M.D., Ph.D., Samuel N. T. Wong, M.D.,

Aldo A. Luisada, M.D., Ellsworth Hasbrouck, M.D., and Wei Chi Liu, M.D., Chicago Medical School, Chicago, Ill.

Distribution: Dr. Emanuel Marcus, 25 East Washington St., Chicago, Ill. **Loan.**

Tsutsugamushi Prevention

28 min., sd., b&w., 16 mm., 1945.

A Navy combined assault on a Pacific island is staged; Marines take the island with few casualties, attacking through kunai grass and jungle. After ten days, cases of scrub typhus begin to appear, until 1200 of a 5500 man unit are down. Eschar, buboes and rash are seen; the headache, prostration, fever delirium and sweats of a profound systemic infection are shown; long convalesence is indicated; an 11% death rate is stated. In a second assault of the same units medical intelligence is invoked. The mite life cycle and its relationship to Rickettsia akamushi is diagrammed. Clothing of attacking troops is impregnated with repellent, skin repellent liquid is used in the field, and camp areas are rigorously sanitized, so that only a very few cases originate in the action.

This dramatized encounter of American troops with scrub typhus in the Southwest Pacific is partly reenacted medical "history," supposedly for motivation of troops; partly medical science of mite, Rickettsiae and man (most of the science is in the narration); partly it is an outline of appropriate preventive measures against the disease. While production skills are proficient, the filming of the mite life cycle and of the patients leaves much to be desired, and there is regrettably much spoken which is not seen.

The clinical material and mite life cycle, thin as it is, may be of some value to medical student audiences. The section on prevention may lend itself to students of public health, although much is outdated and there is much new knowledge. The film entire is suited perhaps only to medical corps personnel or line officers in their World War II orientation to threats of disease. *D.S.R. and M.S.F., with MAVI Panel, February 1954.*

Audience: Students of military medicine, (in part) students of infectious diseases and preventive medicine.

Reference: Ahlm, C.E., Lipschutz, J. Tsutsugamushi Disease in Southwest Pacific Theater. **JAMA,** 124. April 15, 1944.

Production Data: Sponsor-Producer: U. S. Navy.

Distribution: Chief, AV Training Aids Section, Professional Division, Bureau of Medicine & Surgery, U. S. Navy Department, 23rd & E Sts., N.W., Washington, D.C., **Loan** (use Code No. MM-5041-A); United World Films, Inc., 1445 Park Ave., New York 29, N.Y., **Sale:** $34.43.

Communicable Diseases

33 min., sd., color, 16 mm., 1949.

An introduction concerns healthy children and their immunization. Rubeola (measles) is shown, and its cause and complications are described. Rubella (German measles), scarlet fever, varicella (chicken pox), variola (smallpox), murine typhus, meningococcic meningitis, poliomyelitis, infectious mononucleosis, tetanus, pertussis and diphtheria are portrayed more or less completely and characteristically. Immunization schedules conclude the film.

This orientational film seeks to compress an inordinate amount of material on 12 more or less common infectious diseases into one 30-minute concentrate. This is a worthy effort and there are many valuable and revealing clinical shots throughout which record rare phenomena much more meaningfully in motion than shown as stills.

Scientifically, one must question the scarlet fever vaccine material, and the value of immune globulin in rubella. Productionally, the film is a patchwork of shots without any visual continuity, with little visual analysis even in the very graphic material of lockjaw, the whoop or meningeal pain elicitation. The stills of smallpox are unfortunate. The narration, while it is a hard working and detailed lecture, bears such loose relationship to the pictures that it might well be discarded altogether by classroom teachers.

The film's effectiveness is considerable, thanks to a number of rare shots useful to teachers of this subject. However, utilization with an ad lib narration is strongly recommended when the film is used in medical schools. Otherwise, the disassociation of the word-screen image will be very irritating. *D.S.R., with MAVI Panel, 1951 and 1954.*

Audience: Students of medicine, nursing, and public health.

Production Data: Sponsor: Cutter Laboratories, Berkeley, Calif.; **Producer:** Moss Film Productions, Inc.

Distribution: Cutter Laboratories, Berkeley 10, Calif. (and District Offices). **Loan.**

SEE THE LEA & FEBIGER REPRESENTATIVE AT FRENCH LICK, INDIANA, OCTOBER 17 20

Ormsby and Montgomery - Diseases of the Skin

By OLIVER S. ORMSBY, M.D.
Late Rush Professor of Dermatology, University of Illinois, Chicago

and HAMILTON MONTGOMERY, M.D., M.S.
Professor of Dermatology and Syphilology, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota, Rochester

NEW 8th EDITION. Long considered one of the finest books ever written on diagnosis and treatment of diseases of the skin, this outstanding volume is now in a revised, enlarged and up to date *new edition.* Clinical conditions of the skin are described clearly. Emphasis is on the relation of cutaneous manifestations to systemic disease and on neuropsychiatric findings as they relate to treatment of certain dermatoses. Of the 750 illustrations, 117 are new.

New 8th Edition. 1503 Pages. 750 Illus. on 666 Figs. 18 in Color on 11 Plates. $22.00

Rhinehart - Roentgenographic Technique

By DARMON ARTELLE RHINEHART, A.M., M.D., F.A.C.R.
Late Professor of Anatomy and Roentgenology, University of Arkansas, Little Rock

NEW 4th EDITION. This book is a quick and reliable guide to the fundamentals of roentgenographic technique. Every important advance is included in this revised and up to date *new edition.* It is especially useful to physicians who do some roentgenographic work for themselves and their colleagues, and to x-ray technicians, medical students and residents in classes in roentgenology.

New 4th Edition. 454 Pages. 520 Illus. on 216 Figures. 19 Tables. $8.50

Ballenger and Ballenger - A Manual of Otology, Rhinology and Laryngology

By HOWARD CHARLES BALLENGER, M.D., F.A.C.S.
Professor of Otolaryngology, Emeritus, Northwestern University Medical School, Chicago

and JOHN J. BALLENGER, B.S., M.S., M.D.
Associate, Department of Otolaryngology, Northwestern University Medical School, Chicago

NEW 4th EDITION. A concise understanding of the more common pathologic conditions of the nose, throat and ear is presented in this authoritative manual. Special attention is paid to anatomy, etiology, pathology, symptoms and treatment, both general and local. Diagnostic signs are emphasized. For this edition, new material has been added throughout and many sections have been completely rewritten.

New 4th Edition. 365 Pages. 136 Illustrations and 3 Plates in Color. $6.00

Washington Square **LEA & FEBIGER** Philadelphia 6 Pennsylvania

Book Reviews

Medical Uses of Cortisone

Francis D. W. Lukens, editor. The Blakiston Co., Inc., New York, 1954. 516 pp.

This volume is a collection of chapters by well-known authorities on various aspects of cortisone usage. The title is a bit misleading since corticotropin, desoxycorticosterone and hydrocortisone are also discussed. Since each chapter was apparently written largely independently of the others, it was inevitable that these subjects would overlap, so the preface states: The editor has tried not to interfere with any author's freedom of expression except when limitations of space or the factor of unnecessary repetition demanded curtailment."

As a consequence "much repetition has been allowed" and "some differing and possibly contrary opinions have been retained." For example, there is a chapter on neuropsychiatric disorders, but there is extensive reference to neuropsychiatric side-effects in the discussion of collagen disease.

Each chapter contains an abundant and up-to-date bibliography. The excellent report on pharmacologic aspects of adrenocortical hormones in man has 587 references. One chapter on other collagen diseases was admitted to be an extension and amplification of an article appearing in Cecil and Loeb's "Textbook of Medicine," but this does not detract from its value in the book as a compendium of more recent thought. There are a few light phrases that relieve the stress of reading a detailed book; e.g., when Drs. Hench and Ward refer to the precortisone era as "the gay bachelorhood of rheumatology before the latters' sudden thought-provoking union with endocrinology," or again when Drs. Pillsbury and Urbach state that "cortisone therapy of alopecia areata" is a "good example of the use of 16-inch guns to shoot sparrows."

This volume is excellent for study and reference by students, research workers and practicing physicians as an up-to-date review of present concepts and practice. It is a timely book. Already at this writing the commercial availability of parenteral hydrocortisone has made some of the therapeutic suggestions "dated" and in this rapidly moving field, no doubt other advances will soon do so again.

Robert L. Grissom, *Nebraska*

Annual Review of Medicine, 1954

Windsor C. Cutting, editor. **Henry W. Newman,** associate editor. Annual Reviews, Inc., Stanford, Calif., 1954. 414 pp. with index.

The "Annual Review of Medicine" offers information considerably different than a cursory examination of the title would suggest. Instead of the journal abstracting method of the "Yearbook of Medicine" with occasional editorial comments, the annual reviews are almost detailed essays with appropriate reference to current literature.

Personally, I find the annual reviews more stimulating to read (although more difficult) than the yearbook series.

The paragraph style, print and paper of the annual reviews need to be improved. The actual subject matter is excellent and offers, especially to the individual with fairly good background information, a rare opportunity to benefit from the efforts and skills of the authors. The authors of each section manage to maintain a personal, individual approach without seeming aggressive or biased.

E. Grey Dimond, *Kansas*

General Cytology, 2nd edition

E. D. P. DeRobertis, W. W. Nowinski and **F. A. Saez.** W. B. Saunders Co, Philadelphia, 1954. 456 pp. with index. $7.75.

Cytology is in very active ferment. To the classical concepts of cell structure based on light microscope observations and summarized for posterity in E. B. Wilson's monumental treatise, there have been added a host of new concepts based on detailed studies of chromosomes and their behavior, correlated with genetics, both in its morphological and its biochemical manifestations.

Selected MOSBY *Texts*

HUMAN BIOCHEMISTRY

Large areas of this book were completely rewritten to bring it up-to-date. Areas revamped include those dealing with blood coagulation, enzymes and coenzymes, physiological oxidations, cholesterol metabolism, urea formation, transmethylation, and the mechanism of insulin action. Among the new topics added are the dextrans, triiodothyronine, glucagon, serotonin, the carbonic anhydrase inhibitors, blood iodine, lipoic acid, and the structure of insulin and oxytocin. By ISRAEL S. KLEINER. 4th Edition. 746 pages, 93 illustrations, 5 color plates. Price, $7.50.

DISEASES of WOMEN

This revision brings the advances in the knowledge of embryology which have altered the concept of oögenesis and the development of various structures. Also a wealth of new material concerning the interaction of enzymes, hormones, vitamins and various other substances in the endometrial and ovarian structures. Therapy in all diseases has been brought up-to-date. Treatment of pelvic infections is shown in the light of the antibiotics. By R. J. CROSSEN. 10th Edition. 920 pages, 990 illustrations, 41 in color. Price, $18.50.

MOSBY REPRESENTATIVES
AT MEETING OF

Association of American Medical Colleges

FRENCH LICK, IND.
OCTOBER 17-20

The C. V. Mosby Company is appreciative of the invitation to attend the French Lick meeting of the Association of American Medical Colleges, October 17-20. The company will be represented on this occasion by Mr. Howard W. Fry and Mr. George P. Oberst, of the Company's Educational Department.

PHYSIOLOGY

Emphasis on human physiology has been maintained in this revision—and the book continues with unusual completeness—integrating all material so necessary for an understanding of the principles of physiology. Substantial additions have been made on the subject of the reflexes, respiration, body fluids and their dynamics. Endocrinology and the modern accent on the importance of the role of the hypothalamus has also been included. By R. J. MAIN. 2nd Edition. 474 pages, 43 illustrations. Price, $7.00.

HANDBOOK of ORTHOPEDIC SURGERY

This book presents the fundamental facts and principles of orthopedic surgery. Fully revised and brought up-to-date by the addition of new sections on Arachnodactyly, Vitamin Disturbances and Skeletal Changes, Gargoylism, Morquio's Disease, Fibrous Dysplasia, Brucellosis, Gout, Herniations of the Fascial Fat in the Low Back and the Foot of the Growing Child. One of the features of the book is its detailed consideration of the less grave but nonetheless painful, disabling, everyday orthopedic conditions. By A. R. SHANDS. 4th Edition. 544 pages, illustrated. Price, $8.00.

The C. V. MOSBY COMPANY
3207 Washington Blvd. St. Louis 3, Missouri

Over the decades, cytochemistry has added a pinch here and a nugget there, so that a passingly useful but very partial knowledge of the distribution of chemical substances within cells has been achieved, and a beginning made to correlate this knowledge with genetics, contractility, secretion, enzyme activity and other physiological and biochemical phenomena in the cell. In the very foreground now, powerful optical and chemical tools are revealing rapidly submicroscopic and molecular details of structure of cells and their components.

To bring all this together into an integrated concept of the cell is a task of heroic proportions, requiring breadth of scholarly interest and shrewdness of scientific judgment of the highest order. The authors of "General Cytology" have met this challenge with varying success. Saez, in his chapters on cell division, chromosomes and cytogenetics, provides a sound and adequately illustrated coverage of his topics.

But neither there or elsewhere in the book can one find a useful discussion of modern concepts of gene action, such as have been provided by the work of Beadle, Tatum and their collaborators. Nowinski has a useful brief and elementary chapter on cytochemistry, microanalysis and enzymatic activity in the cell.

The remaining chapters provide lively and imaginative discussions of cell structure, organoids and activity and include a respectable sampling of recent electron micrographs, some of high excellence. These chapters may well be stimulating and valuable. The integrative approach is there. But readers are warned that text, illustrations and bibliography have not been adequately revised in view of recent advances in knowledge of proteins and nucleic acid structure, in reflection and interference microscopy, in microradiography and microspectroscopy. For these and for other reasons, these chapters contain many errors in tables, diagrams, dates, names, figures and bibliography. Moreover, one will find numerous statements in the text which are highly controversial or open to grave doubt, but which are nevertheless presented without qualification, question or support.

One may hope that when the next edition of this book is prepared, all the authors will bring to the task the broad scholarship, sound judgment and careful attention to detail which a work of this importance and difficulty demands. An authoritative and reliable treatise of this sort would be very valuable indeed.

H. Stanley Bennett, *U. of Washington*

Clinical Aspects of the Autonomic Nervous System

L. A. Gillilan, M.D. Little Brown & Co., Boston, 1954. 269 pp.

Emotional stress or strain and the mental and physical ailments they produce have increased with the advance of civilization. Medicine has made gigantic strides in conquering conditions such as bacterial and virus infections, systemic dysfunctions (diabetes, etc.) and abnormal growths, but the problem of mental ills becomes ever more distressing.

It has been clearly recognized for some time that an understanding of the functions of the autonomic nervous system is basic to the problems of mental ills. This book, which brings the significant facts concerning the anatomy and physiology of autonomic nervous system together, is a valuable contribution in this endeavor.

The sections on referred pain in various functional and organic conditions are especially interesting. The book presents no new facts about the autonomic nervous system, its sole virtue being the concise presentation of the currently available information. Although the book is principally directed toward the interests of the clinician in medicine, it would appear to be of considerable value as a reference in the basic courses in medical science, especially physiology.

The factual material is well organized and succinctly stated, and the numerous diagrams are very good. The reviewer was disappointed that recent work on conditional reflexes, bearing predominantly on the autonomic nervous system, was not given a greater place in the book. The clinical implications of conditional reflex work deserve more consideration.

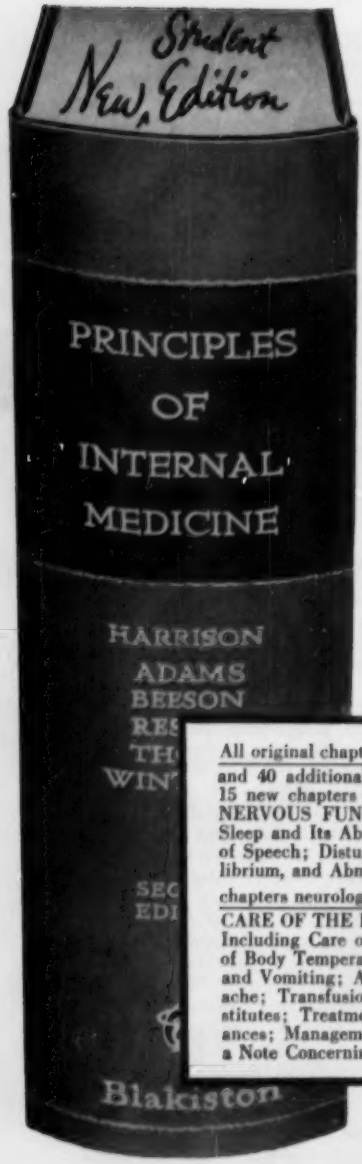
Nevertheless the book can be recommended as a first-class presentation of the significant known facts concerning the autonomic nervous system.

R.A.D.

A Review of Office Gynecology, 6th edition

J. P. Greenhill, M.D. The Yearbook Publishers, Inc., Chicago, 1954. 502 pp. with index. $7.75.

Dr. Greenhill possesses an inimitable



New 2nd Edition

of a world-famous best seller
for medical students and doctors

HARRISON'S Principles of Internal Medicine

Edited by

T. R. HARRISON, A.B., M.D. Professor of Medicine, Medical College of Alabama, Birmingham; **RAYMOND D. ADAMS, M.D.** Bullard Professor of Neuropathology, Harvard University Medical School; **PAUL B. BEESON, M.D., C.M.** Ensign Professor of Medicine, Yale University School of Medicine; **WILLIAM H. RESNIK, Ph.B., M.D.** Associate Clinical Professor of Medicine, Yale University School of Medicine; **GEORGE W. THORN, M.D., M.A.** (Hon.) Hersey Professor of the Theory and Practice of Physic, Harvard University Medical School, and **M. M. WINTROBE, M.D., B.Sc.** (Med.), Ph.D. Professor and Head, Department of Medicine, University of Utah College of Medicine.

Of particular interest in this NEW 2nd edition:

All original chapters have been thoroughly revised, 35 NEW chapters have been added, and 40 additional contributors have furnished pertinent, new material resulting in: 15 new chapters headed as a new section under Part II, entitled DISORDERS OF NERVOUS FUNCTION—The Anxiety State; Depression; Lassitude and Asthenia; Sleep and Its Abnormalities; Recurrent Convulsions; Dementia; Delirium, Affections of Speech; Disturbances of the Motor System; Vertigo, Dizziness, Disorders of Equilibrium, and Abnormalities of Gait; Disturbances of Cranial Nerve Function. In these chapters neurology is stressed as a part of internal medicine. Under Part V, GENERAL CARE OF THE PATIENT, are these 14 new chapters: Introduction; Rest and Activity, Including Care of the Patient with Motor Paralysis; General Nursing Care; Control of Body Temperature; Nutrition; Care of Bowels and Bladder; Treatment of Nausea and Vomiting; Abdominal Distention; Sedation and Relief of Pain, Including Headache; Transfusion of Blood and Administration of Blood Products and Blood Substitutes; Treatment of Shock; Fluid and Electrolyte Therapy; Respiratory Disturbances; Management of the Comatose, the Delirious, and the Demented Patient (with a Note Concerning the Treatment of Status Epilepticus).

Special STUDENT 2ND EDITION in one volume → $16.00
Professional Edition, 2-volume set, boxed.....$21.00

order here

THE BLAKISTON COMPANY, INC., Garden City, N. Y.

Please send me for Professor's 90-Day examination*
_____copies of New, One-Volume, Student Edition,
Harrison's PRINCIPLES OF INTERNAL MEDICINE $16.00
Or send me for Personal 10-Day Examination*
_____copies of Professional Edition, Boxed, 2-Volume Set
Harrison's PRINCIPLES OF INTERNAL MEDICINE $21.00

☐ Charge ☐ Check Enc. ☐ M. O. Enc.

NAME_____
(PLEASE PRINT)
COLLEGE OR
UNIVERSITY_____RANK_____
CITY_____ZONE____STATE_____
*Examination privileges available ONLY in Continental U.S.A.

JME 10-54

BLAKISTON
the
MEDICAL
AND SCIENCE
PUBLISHERS

style of presenting long experience as a teacher, editor and author in this book. His continuing emphasis upon the practical day-to-day problems met by the physician practicing office gynecology is well taken.

He stresses concisely the prophylactic side of gynecologic practice, particularly well in his chapter on postpartum care. Far too many gynecologic texts omit this important factor. His stress upon the diagnosis and management of the vulvo-vagino-cervical disorders deserves commendation. One could wish, however, that he had paid less attention to the recommendation of specific proprietary pharmaceutical formulations for trichomonoadorrheal and monilial infestations of the lower genital tract. He fails to stress that many of the so-called refractive cases of lower genital tract infections and infestations are resultant primarily of poor general nutrition and hypometabolic disorders.

The author has correctly placed the symptomatic problems of dyspareunia and frigidity in a separate chapter adjacent to psychosomatic gynecology. He urges the office gynecologist to employ the basic methods and to assist his patient with common sense, persuasion, suggestion and reassurance.

The chapter on sterility outlines well the specific steps in such antisterility investigations. Conservative gynecologists would not, however, agree with Greenhill that the hysterosalpingography techniques be utilized even "rarely" to diagnose an early ectopic pregnancy. In his chapter on artificial insemination, Dr. Greenhill outlines ways to use both homologous and heterologous semen specimens. He quotes at length, unfortunately, the much discredited 1941 data of Seyman and Koerner. Though some sterility authorities agree that in selected cases donor semen can well be used to obtain pregnancy, there remains the general consensus of the conservative physicians not to employ this procedure in view of recent adverse court decision, church interpretations and groups concerned with morality as well as legal factors. It should be reemphasized that mere signed permission to perform insemination with donor semen does not legally protect the physician.

Culdoscopy is discussed excellently though it is unfortunate that Dr. Greenhill states it can be carried out in a "well equipped physician's office." This diagnostic procedure should be restricted to hospital practice and if employed by a novice even in a "well equipped office" it can carry most hazardous consequences. Further the majority of conservative gynecologists would object to the use of general anesthetic agents in office practice without the availability of a trained anesthetist, and while the intraspinal injection of alcohol for pain for advanced malignancy is a recognized method it also is, of preference, a hospital procedure. Similarly the employment of a stem pessary introduced into the endocervical canal to relieve dysmenorrhea is not an accepted conservative method.

In the chapter of menstrual irregularities, Dr. Greenhill is to be congratulated for his conservative management. While he lists numerous authorities purporting cures with endocrine products he does state that time, more accurate diagnoses, proper hygiene, diet and even brief psychotherapy similarly do have important roles in the therapeutic armamentaria.

Dr. Greenhill faces courageously the problem of conception control and devotes two chapters to this subject so frequently encountered in office gynecology. He notes frankly that in any method employed there do exist failures.

In summary, Dr. Greenhill has covered a difficult and diffuse subject and has created a readable, compact text which should be well received by the physician doing office gynecology. The exceptions noted above are offered in the hope that less well trained men may profit by remaining conservative as compared to the skills of Dr. Greenhill.

Clair E. Folsome, *N. Y. Med. College*

The Physiology of Man

L. L. Langley, Ph.D. and **E. Cherniskin,** M.D. McGraw-Hill Book Co., New York, 1954. 575 pp. plus index. $5.50.

Dedicated to the proposition that learning can be fun, this book serves as an interesting introduction to the study of physiology. The authors rightfully believe that the first experiences of a student in physiology are often a stumbling block which stifles any further interest in the subject.

The striking departure of this book from traditional texts is shown by its down-to-earth language, by its lack of references, by its extensive index and by its numerous illustrations. The illustrations are indeed unusual: in many respects they put the advertising agen-

cies to shame. While they may startle the conservative scholar of physiology, they save the reader a thousand words and countless hours of study. One has the distinct feeling in reading the book that the authors have fun teaching physiology.

The 609 page text is divided into five major sections: the nervous system (172 pp.), the circulatory system (146 pp.), the respiratory system (52 pp.), the digestive system (106 pp.) and the endocrines (88 pp.) The sections on the nervous and circulatory system seemed to be the best. The extensiveness of the index is indicated by its length—33 pages. The remaining 12 pages are taken up with the introduction, which starts the student off by introducing him to certain basic terms.

Many teachers will undoubtedly think that the book, with its host of dogmatic statements, will not stimulate the student to think critically. The authors recognize this as a possible limitation, but believe that the students first must be given certain essential facts without which thinking is futile.

This book is not sufficient by itself for a complete course in physiology, and most instructors will desire to supplement this book, if they use it as a text, with other standard works in the area. Nonetheless, it is a good starting point, particularly for survey courses in the biological sciences. The material in the text has been judiciously selected and it does lay the essential groundwork for further study.

R.A.D.

Books and Pamphlets Received

(As space permits, those with the greatest interest to our readers will be reviewed)

Legal Medicine, Pathology and Toxicology, 2nd edition

Thomas A. Gonzales, M.D.; **Morgan Vance,** M.D.; **Milton Helpern,** M.D., and **Charles J. Umberger,** Ph.D. Appleton-Century-Crofts, Inc., New York, 1954. 1291 pp. with index. $22.

Textbook of Microbiology, 16th edition

William Burrows, Ph.D., with the collaboration of **Francis Byron Gordon,** M.D.; **Richard Janvier Porter,** Ph.D., and **James William Moulder,** Ph.D. W. B. Saunders Co., Philadelphia, 1954. 794 pp.

Developmental Anatomy, 6th edition

Leslie Brainerd Arey, Ph.D. W. B. Saunders Co., Philadelphia, 1954. 647 pp.

OPTICAL INSTRUMENTS ZEISS WINKEL SINCE 1857, GÖTTINGEN, ALLIED ZONE

STANDARD STUDENT MICROSCOPE KF

Embodying the same optical and mechanical perfection of the famed Z-W Standard models, the KF series of microscopes is admirably suited for routine, heavy-duty service.

Of the highest quality and workmanship, these models are offered in a wide range of assemblies, either binocular or monocular types.

A free, detailed booklet describing the KF series of superb microscopes is available . . . ask for your copy.

MADE IN WEST GERMANY

CARL ZEISS, INC., 485 Fifth Ave., New York 17, N. Y.

The Personnel Exchange

Faculty Vacancies

PSYCHIATRIST

To head new Department of Psychiatry and Rehabilitation.

University of Nebraska College of Medicine at Omaha.

Basic guarantee plus consultation privileges.

Write:

H. B. Hunt, M.D.
Univ. of Nebraska Hosp.
Omaha 5, Neb.

• TEN TEACHING POSITIONS are open at the University of Kabul Faculty of Medicine, Kabul, Afghanistan. They are internal medicine, external pathology (surgery), clinical surgery, neuropsychiatry, dermatology, otorhinolaryngology, ophthalmology, radiology, pharmacology and histology. Candidates must be able to teach in either English, French or German. Salary range: $7200 per year for assistant professor, lecturer (U.K.) Dozent (Germany), Agrege (France) or equivalent. $9600 per year for associate professor, reader (U.K.) Ao professor (Germany) or equivalent, $12,000 per year for professor or Ord professor (Germany) or equivalent.

Salaries are payable 70 per cent in dollars and 30 per cent in local currency at official rate of exchange. Contract period is three years, and may be extended by mutual agreement. Transportation is provided to and from Afghanistan for candidates selected but not for dependents. Teaching and clinical facilities exist in the Aliabad hospital, attached to the faculty as a university medical center. In addition to teaching duties, teachers will be assigned medical responsibilities in the university medical centers. Address: Dr. Mohammed Anas Khan, rector, University of Kabul, Kabul, Afghanistan.

• THE BOWMAN Gray School of Medicine offers a one-year fellowship in PREVENTIVE MEDICINE. Opportunities for teaching in internal medicine and preventive medicine, for furthering training in internal medicine, and for individual research in one of several fields. Applicant should have at least two years of postgraduate training, one of which should be internal medicine. Salary $4500 married, $4200 single. Address: V-20.

• CHILD PSYCHIATRIST: Joint appointment in department of pediatrics and psychiatry. Ample opportunities for research and teaching. Rank and salary depend upon qualifications. Staff and service of department will be expanded considerably in near future. Write to Dr. Reynold A. Jensen, office of the medical director, University of Minnesota, University of Minnesota Hospitals, Minneapolis, Minn.

• RESEARCH DIRECTOR: To develop an active research program for the Saratoga Spa at Saratoga Springs, N. Y. Ph.D. with experience in physiology. Knowledge of biochemistry also useful. Permanent New York State Civil Service position (G-27 with salary of $6,562-7,992). Possible appointment to teaching staff of Albany Medical College. Write: Dr. Frank W. Reynolds, Medical Director.

• PHARMACOLOGY: The University of Alberta invites applications for the position of associate professor of pharmacology, in the department of physiology and pharmacology, effective September 1, 1954, at a salary within the range of $5,250-6,250 per annum (not including cost-of-living bonus now approximatly $300), depending on qualifications. Duties include lecture and laboratory courses for medical and dental students and a program of research work. Applications should include a recent photograph or snapshot, a curriculum vitae, and three references. Address: Dean of Medicine, University of Alberta, Edmonton, Alberta, Can.

• BACTERIOLOGY: Applications are invited for position, department of bacteriology, Hebrew University-Hadassah Medical School, Jerusalem, Israel. Duties to commence October 1, 1954. Position vacancy in grade instructor, assistant or associate professor depending on qualifications. For further information write Dr. Joseph Hirsh, Executive Secretary, Medical Advisory Board, 9 East 89th St., New York 28, N. Y.

• OPHTHALMOLOGIST: Full-time teaching and research faculty appointment. Excellent research and clinical facilities. Rank and salary depend upon qualifications. Address: V-19.

• CLINICAL ISOTOPE RESEARCH: Internist or other qualified physician desiring career in research and teaching. Staff position with unusual opportunities to use isotope techniques. Clinical and laboratory facilities for independent and group research. University affi-

WOODWARD
Medical Personnel Bureau

Founders of the counseling service to the medical profession, serving medicine with distinction over half a century.

ACADEMIC OPPORTUNITIES IN MEDICINE, SURGERY AND THE SCIENCES. PLEASE SEND FOR OUR ANALYSIS FORM SO WE MAY PREPARE AN INDIVIDUAL SURVEY FOR YOU.

TO THOSE SEEKING DOCTORS OF MEDICINE AND SCIENTISTS FOR ACADEMIC POSTS PLEASE WRITE US FOR RECOMMENDATIONS OF WELL QUALIFIED MEN AND WOMEN.

STRICTLY CONFIDENTIAL

THE ANSWER IS IN THE ZERO!

YOU can always be sure a TYCOS* Pocket Aneroid is accurate as long as the pointer returns *within zero.* This easy visual check can be made after every reading. And, this Pocket Aneroid can be used *in any position.* Weighing only 19 ounces, it is ideal for house calls. Fits in a zipper case that can easily be slipped into your pocket or your bag. The exclusive hook cuff is designed to fit any adult-sized arm and cannot balloon at the edges. Our 10-Year Warranty allows free readjustments . . . even if you drop it. See this instrument at your favorite surgical supply dealer. Price **$42.50.** Made by Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

*Reg. U. S. Pat. Off.

Taylor Instruments **MEAN ACCURACY FIRST**

To aid in solution of the problem of faculty vacancies, MEDICAL EDUCATION will list persons and positions available, as a free service. The school department or person may have the option of being identified in these columns or of being assigned a key number for each position listed. Mail addressed to key numbers will be forwarded to the person or department listing the request.

Information for these columns should reach the Personnel Exchange Editor, 185 N. Wabash Ave., Chicago 1, Ill., not later than the 10th of the month which precedes the month in which the listings will appear.

liation. Address: Dr. Marshall Brucer, Oak Ridge Institute of Nuclear Studies, Box 117, Oak Ridge, Tenn.

• TOXICOLOGIST OR PHARMACOLOGIST: Graduate school of public health in large university has a staff opening for a toxicologist or pharmacologist. Department with a broad interest in a new, expanding field of industrial chemicals is seeking a person to carry on toxicological studies and offers opportunity for fundamental research on mechanisms of toxicity. Recent graduates considered. Some graduate teaching if desired. Address: Box V-24.

• The department of medicine of an Eastern medical school anticipates a temporary vacancy in its subdepartment of endocrinology and metabolic disease in July 1955, while one of the faculty completes his armed service requirements. It is interested in securing a highly qualified man to fill this vacancy during the one or two years leave of absence of the incumbent.

Unfortunately no commitments can be made at this time regarding occupancy of a faculty appointment when the present incumbent returns. Salary, job description and other details will be discussed with any qualified and experienced physician and teacher who inquires about the temporary vacancy. Address: V-23.

Personnel Available

• PATHOLOGIST: M.D., 43, board certified in pathologic anatomy and clinical pathology. 17 years well-rounded experience in large hospital laboratory, medical school teaching and residency programs. Many scientific publications. Special interests include tropical medicine and hematology. Seeks position in foreign country, preferably in tropics. Address: A-121.

• SURGEON: 38, married, veteran. Diplomate of the American Board of Surgery. Training in general surgery with fellowship in tumor surgery. Background of research in biochemistry. Desires teaching position with opportunity for research; U. S. or foreign. Available July 1. Address: A-111.

• ORTHOPEDIC SURGEON: 36; certified; university trained; M.S. (orthopedic surgery) experience in traumatic surgery and rehabilitation of severely disabled. Seeks association with diplomate and university hospital affiliation. Address: A-112.

• PHYSIOLOGIST—MICROBIOLOGIST: Man, Ph.D., 30, veteran. 7 years experience in teaching physiology, microbiology and histology, medical school level. Member of scientific societies. Desires teaching fellowship with opportunity to work for M.D. in return for tuition and stipend. Prefer Canada or U. S. Goal—radiology. Available in fall. Address A-113.

• PHARMACOLOGIST-PHYSIOLOGIST: M.S., Zoology; Ph.D. expected June 1954. Experienced in pharmaceutical research, teaching experience in pharmacy during army service. Desires research and teaching position in physiology and pharmacology. Special interest in endocrinology. Member scientific societies, Sigma Xi. Publications; references. Address: A-114.

• M.D., M.P.H.: Diplomate of Board of Public Health and Preventive Medicine desires to head department of PUBLIC HEALTH and PREVENTIVE MEDICINE in medical school. 14 years varied experience in field combined with teaching at undergraduate and graduate levels. Capable of integrating this subject with rest of medical school curriculum. Address. A-115.

• INTERNIST-CARDIOLOGIST: M.D., 33, family. 7 years of university hospital training, including 4 years in cardiac laboratory. 30 publications. Certified in subspecialty. Now assistant professor of medicine. Seeking change of location. Prefers full-time permanent academic position. Address: A-116.

• ANATOMIST: 28, Ph.D. in anatomy. Desires teaching position at medical, dental or pharmacy school. Will consider teaching gross anatomy, histology, embryology or neuroanatomy. Chief interest is neuroanatomy. Continental U. S. school only. Available now. Address: A-122.

• PHYSIOLOGIST-ENDOCRINOLOGIST: Man, 31, Ph.D. 5 years experience in teaching and research at Harvard University. Seeking full-time academic position. Extensive experience in physiology, general endocrinology, endocrinology of reproduction, human heredity, research methodology, histology and zoological sciences. Will accept administrative duties and responsibilities. Salary secondary to good future. Address A-117.

• HISTOLOGIST-HISTOCHEMIST: Ph.D. Harvard; young man, teaching and research experience. Publications; member of scientific organizations. Interested in obtaining teaching or research position in eastern U. S. Address: A-118.

• LABORATORY SUPERVISOR: Administrative and/or teaching position in medical technology. 10 years supervisory experience. B.S. in bacteriology. Graduate credits in biochemistry, histology and pathology. Laboratory officer, Sanitary Corps, Medical Department, U. S. Army 4 years (captain). Publications; references. Seeks stimulating position, preferably with academic affiliation. Address: A-119.

• SURGEON: 32; American Board of Surgery certified. Married. Interested in academic career; category 4; prefer job with limited

private practice privileges, but will consider any full-time position without private practice allowances. Address: A-120.

• BACTERIOLOGIST: Male, 39, M.Sc., married. 5 years teaching experience in medical bacteriology and general microbiology. 12 years practical and administrative experience in public health laboratories. Desires teaching position with research opportunities or administrative positon in public health laboratory. Presently assistant professor of bacteriology. Available autumn 1954. Address: A-123.

• BIOCHEMIST-RADIOCHEMIST: Ph.D., 1952. Major in physical chemistry, minor in biochemistry. Experience in sterols, organic reacton mechanisms, small animal metabolism and radiocarbon dating. Presently engaged in research on mineral metabolism in man. Publications. Desires teaching or research position in applications of isotopes or physical chemistry to medical problems. Address: A-124.

• INTERNIST: M.D., practicing physician, consultant in medicine and encrocrinology, interested in university position developing research study to determine the potential of measuring taste as it adapts to and reflects immediate physiologic and nutritional needs. Hospital and medical school teaching experience. Certified Am. Bd. of Internal Medicine; Am. Coll. Physicians. Address: A-125.

• BIOCHEMIST: Biochemistry-Internal medicine Ph.D., M.D., 40. Interested in medical school appointment for teaching and research. Experience in teaching, research and private practice. Particularly interested in clinical correlation of basic sciences. Address: A-126.

• PHYSIOLOGIST: Ph.D., male, 37, family. Experience in research and teaching mammalian physiology. Research emphasis in neurophysiology and visual physiology. Experienced in using electrophysiological techniques. Acquainted with problems and techniques of electromyography, especially as applied to human studies. Publications. References. Desires opportunity for research with or without teaching responsibilities. Available. Address: A-127.

• PHYSIOLOGIST: Ph.D., 35, married. Presently associate professor of medical physiology in large medical school. Fifteen years experience in teaching and research, the last seven in medical schools. Many publications in fields of nutrition, respiration, endocrinology, steroids, radioisotopes. Experienced in organization, administration, teaching. Considerable clinical experience. Will consider any location. Salary above $7000. Address: A-129.

• PHYSIOLOGIST: M.D., Ph.D., 35, family. Training requirements for boards in internal medicine completed. Teaching and research experience. Army service will be terminated end of 1954. Desires full-time academic position where basic science and clinical interests in teaching and research may be fulfilled. Address: A-128.

• PHYSIOLOGIST: Ph.D., 38, broad biological training. Wide experience in teaching and research. Desires teaching position in Chicago area with opportunity for research. Available September 1. Interest and experience in connective tissue permeability and biological effects of x-rays. Married. Address: A-130.

• PHYSICAL CHEMIST—BIOCHEMIST: Woman, single, 30. Ph.D., 1949. Major in physical chemistry, minor in biochemistry. Two years experience in clinical research on total body water and kinetics of water transfer. Desires teaching with some research. Publications, references. Address: A-131.

• ANATOMIST: 30, married, Ph.D. Specialty in neuroanatomy. Competent in human gross anatomy and histology. Two years completed in medical school. At present associate professor in medical school. Nine years teaching experience in medical school. Have had full charge of course in medical neuroanatomy. Research primarily in neurocytology and gross anatomy. Major advisor on graduate work was very eminent neuroanatomist. Minor work was in neuropathology. Prefer to remain in teaching and research in a medical school. Address: A-132.

• INTERNIST-GASTROENTEROLOGIST: M.D. Mayo and university training, total over five years, including gastroscopy and proctoscopy. Also interested in hematology and peripheral vascular diseases. Certified by American Board of Internal Medicine. Now instructor, department medicine. Family. Desires change in location. Address: A-133.

• ANATOMIST: Ph.D., 27, married. Desires permanent teaching-research position in medical school. Thoroughly trained in all phases of anatomy, especially neuroanatomy with minor field in pathology. Four years' teaching experience in gross anatomy and neuroanatomy. Extensive research experience including publications. Member Sigma Xi. References. Address: A-134.

• THORACIC AND GENERAL SURGEON, 48, Certified by board in surgery and in thoracic surgery. Member of numerous national societies and author of many scientific publications. Has served as chief of the surgical service in large teaching hospitals. Long experience in teaching and training programs; some in research. Desires teaching appointment in class A medical school, preferably full time. Primary interest in thoracic surgery. Address A-135.

• INTERNIST—HEMATOLOGY: 37, board certified, FACP. Available for interesting and challenging opportunity (academic, clinical or other.) Experience qualifies for teaching and/or research (basic and clinical,) organization and management, medical editing and public relations, direction of graduate students and resident training program, and clinical activities. In 10th year large midwestern medical college, currently associate professor. Address: A-136.

• BIOCHEMIST: Ph.D., presently holds teaching and research position in a medical school. Desires position with teaching and research responsibilities. Address: A-137.

• PATHOLOGIST: Associate professor, 38. Six years experience in teaching general pathology and neuropathology. Desires full or part time teaching appointment which, in particular, will provide time and stenographic facilities for preparation of textbook contracted to publish, and other publications. Address: A-138.

• PUBLIC RELATIONS DIRECTOR: 20 years experience in handling a variety of business and college public relations, specialist in interpreting scientific and technical topics, interested in connection with medical school or medical foundation where his energies and talents might be concentrated to better advantage. Address: A-139.

Individual Membership

in the

Association of American Medical Colleges

For the first time in 1954, medical college teachers and administrators, and other persons interested in medical education have the opportunity to become Individual Members of the Association.

Individual Membership means receiving the Journal of Medical Education each month. It means participating in the discussions of the Annual Meeting and receiving the reports of the Teaching Institutes. It means receiving copies of the yearly *Directory*, the *Proceedings* of the Annual Meeting, the booklet on "Admission Requirements of American Medical Colleges," and other regular Association publications. And it makes available a valuable, though limited, information service and a personnel exchange service.

Individual Membership, at only $10 a year, is open to any person who has demonstrated a serious interest in medical education over a period of years. All the privileges of membership begin immediately after payment of the $10 fee, although confirmation must await official action at the next Annual Meeting.

To obtain membership, fill out the application form below, append check for $10, and return to the Association's central office at 185 N. Wabash Ave., Chicago 1, Ill.

INDIVIDUAL MEMBERSHIP APPLICATION

Association of American Medical Colleges
185 N. Wabash Ave.
Chicago 1, Ill.

Name_____

Mailing Address_____

_____
(City) (Zone) (State)

Field of medical education in which chief interest lies_____

_____

College or other connection_____

READY OCTOBER, 1954

MAXILLOFACIAL ANATOMY

WITH PRACTICAL APPLICATIONS

by

HARRY H. SHAPIRO, D.M.D.

Assistant Professor of Anatomy, College of Physicians and Surgeons, Columbia University

MAXILLOFACIAL ANATOMY, a new book replacing the author's former book entitled *Applied Anatomy of the Head and Neck,* is designed for those interested in detailed, correlated study of the fundamental principles of development, structure and dynamics of the anatomic components of the maxillofacial region of the human body and the relation of these principles to clinical practice.

It offers descriptive and practical information on normal, dynamic, roentgenologic, and, to a degree, pathologic anatomy of the face and jaws and associated areas. Covers early development, temporomandibular joint, oral cavity, teeth, pharynx, sinuses; vascular supply and drainage; cranial nerves, arteries, veins, lymphatics, glands, bones, muscles; roentgen anatomy, neuralgia, headache, cephalographic determinations in maxillofacial asymmetry, etc.

Dr. Shapiro's skill in describing and illustrating morphologic anatomy with an eye to the effective use of such knowledge in clinical situations makes learning exciting and provides a guide to remembering.

382 Pages **Over 400 Illustrations on 314 Figures** **$12.00**

Available at all regular medical bookstores

J. B. LIPPINCOTT COMPANY
EAST WASHINGTON SQUARE, PHILADELPHIA 5, PA.